Center for Economic Growth

Office of Emerging Markets

INITIATIVE ON INTERNET FOR ECONOMIC DEVELOPMENT

INITIAL SURVEY OF BULGARIA

September 19 – 30, 1999

Center for Economic Growth and Agricultural Development
Bureau for Global Affairs, Field Support and Research
U. S. Agency for International Development
Washington, DC 20523-0228

EXECUTIVE SUMMARY

At the invitation of the USAID mission in Bulgaria, a team of information technology professionals conducted a preliminary assessment from September 19th to the 30th, 1999. The visit was occasioned by the creation of the Presidential Initiative on Internet for Economic Development by President Clinton in November of 1998. The purpose of the Initiative is to speed the adoption and application of new technologies in development, particularly by expanding access to the Internet and its applications such as electronic commerce. The team's visit had the objective of conducting an initial survey of the situation in Bulgaria, in order to identify potential opportunities for action under the Initiative.

In a series of more than 30 meetings, the team met with representatives of various government agencies, the business community, the education sector, NGOs, and the telecommunications sector. This broad exposure enabled the team to develop an analysis of the status and potential of the situation in Bulgaria. The team was impressed by the advanced state of readiness in the country to accelerate the national involvement in information technology and connectivity for economic growth. While there are many constraints in the situation, it was clear that there is a strong base and considerable momentum in the country. The government is clearly committed to an electronic future for Bulgaria's economy; it is currently deeply involved in the preparation of legislation to provide the context for the growth, and in the development of infrastructure and applications to enhance the role played by the government. The private sector is also quite cognizant of the urgent needs and direct benefits that will accrue to them from a deeper involvement with information technology. They are eager to participate in what they see as electronic future, partly because they think it is essential for their participation in the economic and business activity of the European Union, and partly because it offers a direct economic benefit in the more immediate national context.

The NGOs and the education sector have a clear vision of the importance of information technology and connectivity, not merely for economic growth but also for establishing a basis for citizen participation in a rapidly evolving civil society. The telecommunications sector could hardly be more intensely aware of the salience of information technology and communications. Parts of the telecom sector are caught up in the worldwide movement toward privatization, liberalization, and deregulation of telecommunications entities. Other parts are more taken with the idea of seizing the opportunity that the entrance of competition provides, and are engaging with entirely new markets such as Internet service provision as well. The telecommunications sector does not represent a simple element in the Bulgarian equation, but it is strongly focused on the environment of rapid change and opportunity in which it finds itself.

The team's assessment looked at the governmental and legislative aspects of the situation. The Republic of Bulgaria is developing a national strategy for its emergence into an information society. It is consciously planning to develop the institutions, the infrastructure, and the mindset to step forward as a modern economy. They are engaged in a participatory process of the development of legislation as a part of the initial groundwork. There is a surprisingly broad awareness across different elements of

the government structure of the importance of these events. This report covers in detail many of the things being undertaken by the government. While there is active criticism from some quarters, and an energetic debate about the best path, these features should be seen as a healthy part of the process by which a civil society determines its future.

The team also examined the evolution of the telecommunications sector and the availability of existing infrastructure that might meet the technological needs for this new era. The country is in the throes of privatization of its national monopoly carrier. This has introduced elements of uncertainty and has delayed an otherwise aggressive investment strategy in new capacity. The flux in the system has both stimulated the emergence of new suppliers and new products, such as in the arenas of wireless telephony and Internet service provision, and has also led to confusion and stasis while the government negotiates with potential foreign investors in the telecom sector.

The existing infrastructure is not ideal for widespread access to networked digital communications. That situation is changing fast as new infrastructure is built, or alternative techniques (such as wireless communication) emerge. Nonetheless, both areas are fairly advanced in telecommunications infrastructure relative to other impoverished nations. The availability of good Internet connectivity will be a declining constraint over the next two decades as technology advances and infrastructure is built. For the moment, relatively good connectivity can be had in places that are well served by the current infrastructure, but otherwise connectivity remains a problem for more rural applications.

The team was very positively impressed about the situation in Bulgaria. During the extensive meetings (detailed elsewhere in this report) they identified the number of potential areas as opportunities for activity that would be appropriate under the Initiative. This list, which is presented in detail in the report, should be taken as an initial and illustrative scan of the environment, rather than as an exhaustive compendium. There was a rich set of possible activities, which the team has identified for the mission to consider with its development partners before choosing specific activities for integration into its development portfolio.

The team conducting the survey was composed of six experts:

Kenneth Lanza, *Team Leader*, USAID/Washington, G/EGAD/EM;

Blair Cooper, *ENI Bureau Representative*, USAID/Washington, ENI/OIM/ID;

Randy Hartnett, *E-commerce Development Specialist*, President, Broadband;

Andrew Kinnear, *Regulatory Specialist*, Independent Consultant;

Dennis Foote, *Human Resource and Development Information Technology Specialist*, Vice President, Academy for Educational Development;

Nora Ovcharova, *Program Specialist,* USAID/Sofia.

TABLE OF CONTENTS

INTRODUCTION

The Internet is a force for economic development, the spread of democracy and for promoting international communications and understanding. Yet large populations in the developing world are at risk of being bypassed by the information revolution. The Internet and electronic commerce have the potential to drive world economic growth for many decades[1]. Globalization is reflected by the democratization of finance, education and communications[2]. It is within the context of these democratizing forces that the USG through USAID seeks to assist countries in its transition to globalization. Globalization may be defined as the responsible integration of nations into international social, political and economic structures. The decision of the USAID Mission to seek ways to assist the responsible integration of Bulgaria into the world's information networks by applying information technologies and Internet development is a prescient decision that will likely have significant long-term impacts for the country's economic growth and development.

BACKGROUND OF THE INITIATIVE ON INTERNET FOR ECONOMIC DEVELOPMENT

The U.S. Government formally recognized the need to help speed up the adoption and application of new technologies on November 30, 1998 when President Clinton announced the Initiative as part of the "First Annual Report of the U.S. Government's Electronic Commerce Working Group". The Initiative seeks to expand access to the Internet and its applications such as electronic commerce in developing nations. The Initiative is intended to demonstrate that widespread Internet deployment and use is possible and can lead to substantial sustainable development outcomes. Programs under the Initiative are expected to be designed to facilitate the liberalization of legal and regulatory reforms, stimulate new business activity through e-commerce, and demonstrate applications in democracy and governance, economic growth, environment, education and health and population.

On June 22, 1999 Vice-President Gore announced the names of eleven nations, including Bulgaria, whose governments agreed to participate in the first, pilot stage of the Initiative. The U.S. Department of State was named the policy coordinator for the Presidential Initiative. USAID was given the lead role in country selection, designing strategies and coordinating interventions at the country and regional level. There were no funds attached to the Initative, although USAID requested White House support in obtaining *supplemental* funding to help initiate pilot activities within the selected countries.

PURPOSE AND METHODOLOGY OF BULGARIA'S SURVEY

The USAID Mission to Bulgaria requested the assistance of USAID's Information Technology Team ("I"-Team) in an email dated December 10, 1998 as a response to a

[1] "U.S. Government Working Group on Electronic Commerce", First Annual Report, November 1998.
[2] Friedman, Thomas; "The Lexus and the Olive Tree", May 1999.

request for interest in participating in the Presidential Initiative. In that message, it was made clear that the Government of Bulgaria and the USAID Mission were keenly interested in seeking ways to further develop the environment for using information technologies, especially through the Internet, to amplify development impacts. Several issues and potential areas for involvement were cited including:

- Telecommunications policy reform and the privatization of the Bulgarian Telecommunications Company (BTC)
- Social enterprise, private sector and university partnerships
- applications for enhancing private sector development
- use of new technologies for advancing anti-corruption efforts, good governance and civil society, and
- human capacity development.

The ***purpose*** of the "I" Team's Bulgaria survey under the Initiative was to:

- understand the country's environment and potential for the use of information technologies, especially the Internet, and
- identify several opportunities for potential USAID involvement that supported the Mission's strategic objectives

Five members were selected as a team to undertake the survey. They included a Senior Officer of USAID's Global Bureau and core member of the Agency's "I" Team, an ENI Bureau Representative, an e-commerce development specialist, a regulatory specialist with recent and relevant in-country experience, a human resource development information technology specialist and a USAID Bulgarian Foreign Service National program specialist. The team conducted research and interviews in country over a two-week period, September 19 through September 30, 1999[3]. Briefings with the Mission Director, the Ambassador and various USAID Mission staff were held over the two-week period.

INTERNET ENVIRONMENT FOR ECONOMIC DEVELOPMENT

GOVERNMENT

STRUCTURE OF THE BULGARIAN TELECOMMUNICATIONS SECTOR AND THE INTERNET

In 1992, the Bulgarian Government disbanded the PTT and replaced it with the Bulgarian Telecommunications Company (BTC), which is the owner and operator of the national public telecommunications network. BTC's rights and obligations are stipulated in a license, which includes the exclusive rights to provide access to local, long distance and international conventional basic services over a fixed network until 31 December 2002.

[3] See Annexes A & B for details.

The government also created the Committee of Posts and Telecommunications (CPT), which was the government regulatory authority responsible for developing and implementing government policy in the telecommunications field. This organization was responsible for ensuring the recovery of investments of the State and for liberalizing the telecommunications sector.

In 1998 the government passed a new Telecommunications Law, which amongst many issues, introduced changes to the previous structures. (See Annex B for an English version of the Telecommunications Law. Note that it is available on the web under http://www.btc.bg/btc/inform/document/winen/eng5.htm). The Law provides conditions for:

- the liberalization of telecommunications activities and services, the establishment of a free market and fair competition;
- fair and non-discrimitory treatment of the operators;
- provision of universal service on the territory of the entire country at affordable prices;
- protection of the national security interests.

Additionally, the Law states that telecommunications shall be carried out by telecommunications operators on the grounds of individual, class or general licenses.

This has created an environment for the potential privatization of the Bulgarian Telecommunications Company (BTC) and opening up data communications and value-added services to competition.

The telecommunications activities are managed by the Council of Ministers (CoM), the National Radio Frequency Spectrum Council and by the Committee of Posts and Telecommunications (CPT). The CoM lays down the state policy in the field of telecommunications by approving a Sector policy statement. The sector policy determines the strategy, principles and stages of development of the telecommunications sector and the types of activities and services as well as the time schedule of their liberalization.

The Committee of Posts and Telecommunications (CPT) prepares and submits policy to the CoM for approval, and then pursues the sector policy in the telecommunications sector. The sector policy has to comply with the telecom policies in the European Union (EU) as far as possible. The CPT exercises the rights of the capital owner in the State-owned companies, as well as in those companies in the telecommunications sector where the State is a shareholder or partner. Some of the activities the CPT are responsible for and carry out relate to :

- restructuring of the sector;
- research and development in telecommunications;
- development of the Information Society;
- Eurointegration.

The State Telecommunications Commission (STC) was established in late 1998, and is a State authority, reporting directly to the Council of Ministers, responsible for the

regulation and control of the telecommunications activities. The STC is responsible for granting, amending, supplementing, suspending, and revoking licenses for telecommunications activities. Figure 1, entitled `Institutional Structure´ provides a clear picture of the current relationships.

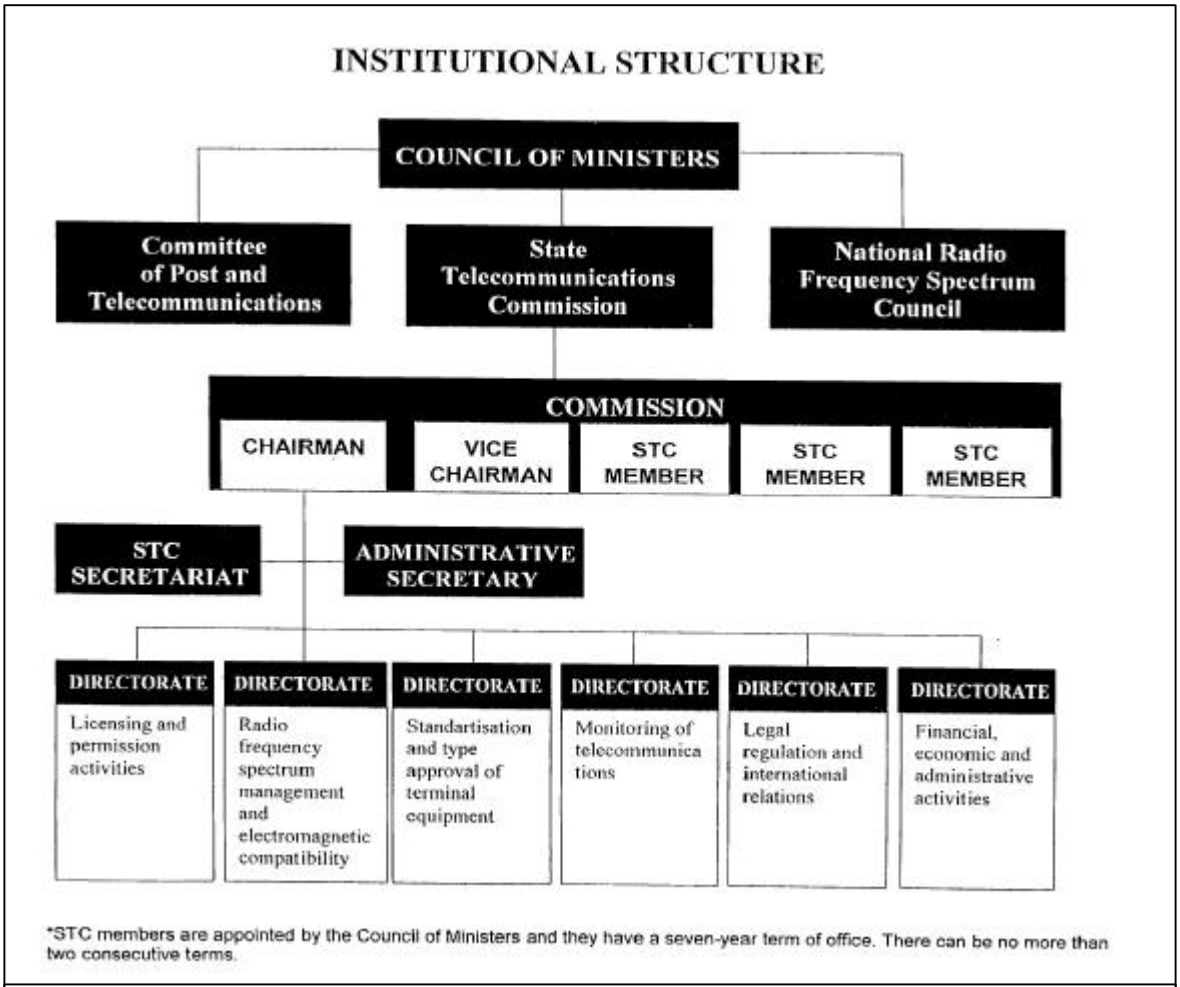

Figure 1: Organization of the Telecom Sector

In addition the STC exercises functions related to the management of the radio frequency spectrum; approves the types of terminal equipment; is the national standardization body in the field of telecommunications, and has other representational functions in external regulatory bodies.

Bulgaria's signatory status to the World Trade Organization's Group on Basic Telecommunications Agreement (WTO GBT) and the European Union accession legislative environment, have helped to develop many of the liberalizing measures, which have been incorporated into the new Telecommunications Law.

The structure and positioning of business related to the Internet in Bulgaria in the Telecommunications Sector is awaiting the outcome of the Stategy of the Development of the Information Society. In February 1998, the Council of Ministers adopted a decree on the establishment of a Coordination Council on the Information Society, that is chaired by the Deputy Prime Minister. The basic task of this Coordination Council is to assist the Council of Ministers in defining the national information policy and to organize the development of the project `Strategy and National Program for Information Society Development in the Republic of Bulgaria´. The development and preparation of this stategy was assigned by the CPT in April 1998, to the Bulgarian Institute of Legal Development, who have completed the strategy after public discussion and consultation with various organizations. It is expected that this strategy will be adopted in the near future by the Council of Ministers, and will assist the positioning of the Internet in this sector. A more in depth view of the National Strategies is provided later.

There are several organizations, both government and private, that have been established to develop and promote the emergence of the Internet in Bulgaria. In many cases these organizations are supported and have represention from both the government and private entities :

- Coordination Council on Information Society,
- Internet Society Bulgaria,
- Internet Alliance for Economic Development,
- The ISP Association,

to name a few of the prominent ones.

However in general, it would appear that the overall development of the telecom sector has been impeded and slowed by a fragile political and economic climate over the past few years in Bulgaria.

LEGISLATIVE FRAMEWORKS

The Telecommunications Law of 1998 provides the legal framework for all telecommunications activities in Bulgaria.

Since the Internet is viewed as a comparatively new technology, most governments have been unprepared for the extremely rapid development, which has effected many dimensions – economic, cultural and social. Often the misunderstandings of this new technology and the vision of freedom associated with the Internet have caused concerns for some governments. Over the years, the Internet has grown within a relatively regulation-free environment.

The Government of Bulgaria has not been especially different from other governments in this regard, in that there is little legislation that regulates the Internet in Bulgaria.

When legislation was first introduced in Bulgaria for the Internet, the reaction was somewhat different than expected. In December 1998, a decree was issued by the Council of Ministers, having been approved by the Chairman of the Committee of Posts and Telecommunications (CPT), that added the Internet to the Telecommunications

services, which require licensing, and in so doing meant all Internet Service Providers (ISPs) had to be licensed.

In January 1999, the Bulgarian branch of the Internet Society initiated legal proceedings against the Committee of Posts and Telecommunications, requesting the CPT to remove three items from the decree. These items require licensing in fields of telecommunications, which relate to the Internet. The Internet Society considers the decree a violation of the Bulgarian Constitution, the 1998 Bulgarian Law of Telecommunications and EU directives for the Internet, and furthermore viewed the decree as an attempt to give the State control of Internet activities in Bulgaria.

In June 1999, the Supreme Administrative Court of Bulgaria stopped the execution of licensing ISPs in Bulgaria, while the Courts deliberate on this issue. This legal deliberation may take some months or years to conclude, meaning that there is presently no requirement for ISPs in Bulgaria to be licensed or registered.

However, there is a serious legal impediment to the rapid spread of the Internet in Bulgaria, which is written in the Constitution of the Republic of Bulgaria. Article 18 of the Constitution determines that the State should establish a State monopoly for the provision of ordinary telephony service (local, long distance, transit and international), on the fixed telephony network until 31 December 2002, and the provision of leased lines until 31 December 2002. This state monopoly is the Bulgarian Telecommunications Company (BTC), who have been issued a license by the STC under the 1998 Telecommunications Law.

The CPT have been negotiating the privatization of BTC for the past two years, and it has been agreed that the monopoly for fixed telecommunications will remain until December 2002, with the new privatized company,whenever this company is established before that date. Additionally this will mean that BTC will be the only operator allowed to operate terrestrial international connectivity, until December 2002. This is likely to cause a delay in the introduction of many value added Internet services, which require greater bandwidth.

Independent International Satellite connectivity has helped several organizations to legally provide communications services, especially the Internet, but at a high cost. The American University of Bulgaria, as an example, uses Loral Orion to provide direct satellite links for their Internet connectivity, with a 512 Kbit receive bandwidth, at a cost of $12,000 per month. This satellite connectivity still requires the consent of BTC.

In theory, this means that there can be no independent Internet backbone network development in Bulgaria, as BTC is the only company licensed to provide fixed networks. Furthermore since there is no competition, the tariffs charged by BTC do not reflect a competitive environment, where lower prices would allow wider access.

The Ministry of Education and Science have been trying to establish a National Academic Information Network, which will allow Internet linkages among universities and research institutes in Bulgaria. However this network will have to rely on the national BTC infrastructure for leased lines, thereby increasing the costs to the Ministry.

The Ministry of Defense and Mobil Tel, the only GSM cellular licensed operator, have formed a company to build a radio relay backbone network, which could be used for Internet purposes. However this will be the only alternative national backbone network to BTC. Even the Council of Ministers has its own fiber optic network in Sofia, but for linking to other national cities are forced to obtain leased lines from BTC.

It is expected that the mobile cellular sector in Bulgaria will likely offer a legally easier and faster way to promote access to the Internet, with new technologies being developed and introduced in this sector. There exists competition in the mobile field between an analogue NMT-450 network, Mobilkom, a joint venture company, Radio Telecommunications Company Ltd., (Cable & Wireless 49%, BTC 39% and Radio Electronic Systems 12%), and the second operator, Mobil Tel (United European Bank 50% and a local Bulgarian company, Bulsim 50%), who operate a GSM 900 MHz network. Both networks will cover over 90% of the population by the end of 1999. It is expected that part of the BTC privatization package will include an additional GSM 900 MHz license for the new company. Figure 2 shows the current and planned coverage by Mobil Tel for its GSM service. The current service is in dark green, and the planned service is in light green.

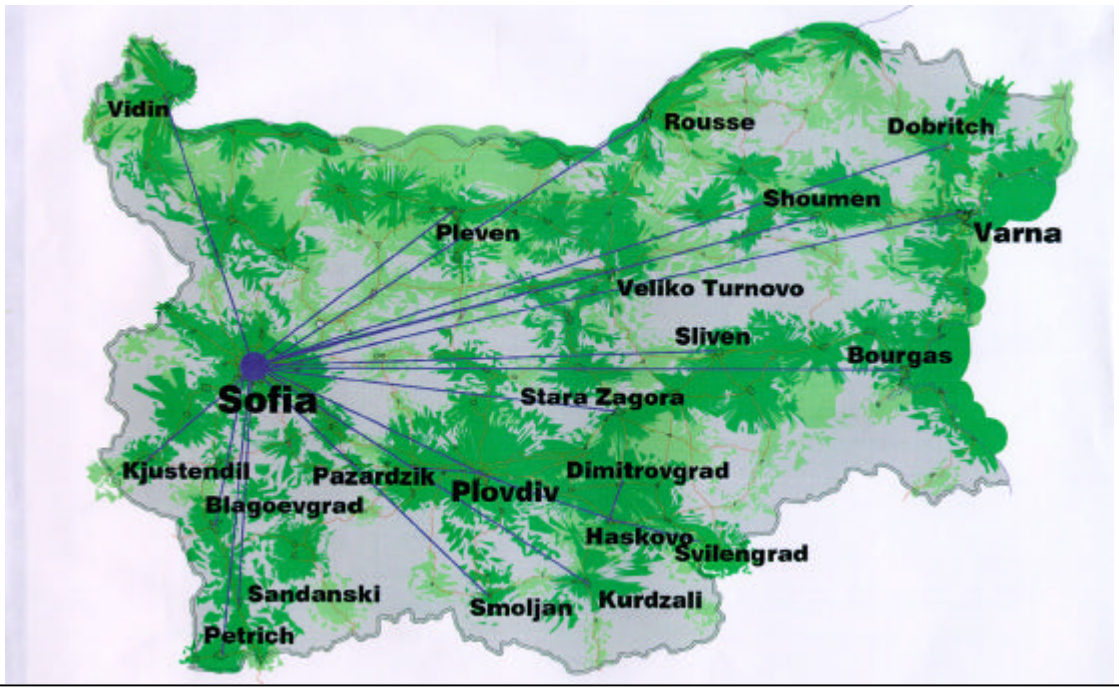

Figure 2: GSM Coverage by Mobil Tel

In conclusion, the legal framework will slow the development of the Internet in Bulgaria, primarily due to the apparent reluctance to totally liberalize BTC immediately. This inevitably means the Bulgarian public will be required to pay a high price for accessing

communications, thus slowing the pace of Internet development, in a country where external dvelopments have already slowed the pace of economic development and liberalization.

STRATEGY AND NATIONAL PROGRAM FOR DEVELOPMENT OF THE INFORMATION SOCIETY IN THE REPUBLIC OF BULGARIA

General

The draft of the "Strategy for Development of the Information Society (IS) in the Republic of Bulgaria" defines the national priorities and major activities at legislative, technological, economic and social level. Based on the Strategy, a national program for development of IS is developed, with the state bodies also are preparing their sector strategies and programs.

Objectives and Funding

The draft document stresses the necessity of transition to IS and finding a specific national expression of the global principles of the policy for IS development, and formulates the following basic objectives:

- development and adoption of an overall legal and normative framework, regulations and procedures, harmonized with those of the European Union;
- creation of a new living and working environment on the basis of broad utilization of new information and communication technologies;
- provision to all citizens an equal access to modern, effective and high-quality telecommunication and information services, as well as equal opportunities for acquisition of skills for their usage.

The financial sources for achieving the objectives and realization of the Strategy come from investments from the private and state sector, the state budget, municipal resources, and funding by bilateral and multi-lateral international programs.

Decisions at a national level are taken by the Coordination Council on Information Society with the assistance of the Committee of Posts and Telecommunications. The basic functions of the state institutions are:

- legal arrangement of the foundations of IS with minimum regulation in the public interest with guaranteed citizens' rights;
- development of a policy for stimulating the activities important for IS, as well as for realization of projects with national significance;
- involvement in inter-state agreements for achieving a unified global arrangement in the information sphere and struggle against international crime.

The private sector role is primarily in:

- building the technological foundations of IS;
- active participation in the standardization process.

The document emphasizes the necessity of involving the whole public, and especially non-government organizations and institutions, into contributing to the transition to IS.

Legal And Regulatory Framework

The basic principles of regulation under conditions of IS are considered to be the creation of rules for fair competition, protection and encouragement of the social and democratic values and compliance with the users' needs as citizens and customers. An especially important issue of the transition to IS is the legal regulation of the access to information, and, in particular, the mechanisms of exercising the communication rights of the citizens - the right of free expression of opinion, right to information, right of personal inviolability.

The basic principles of the legal regulation of telecommunications and electronic media have already found their expression in the Telecommunications Act and in the Radio and Television Act. In telecommunications these are liberalization of services and separation of the functions of state management from the functions of regulation. The objective in the field of electronic media is to achieve their independence, creation of conditions for fair competition and plurality of opinion, freedom of speech and fuller realization of the right of information.

Special attention is paid to the development of Internet as a global communication environment and to the necessity of guaranteeing its lawful use to the benefit of the civil society development and realization of human rights. Especially important is the adherence to the principle of minimum regulation and the creation of an efficient mechanism of self-regulation of the Internet. Special attention should be paid to electronic commerce and electronic banking, and in connection with them to the legal regulation of electronic signatures, enabling unambiguous identification of the parties and guaranteeing the authenticity of the electronic messages.

It is especially important for the transition to the information society that the national standardization system be adapted to the international requirements. The document stresses the necessity of adopting a new Standardization law, as well as a law on technical safety of industrial products. In terms of organization, a public body is to be set up in charge of standardization and phased transfer of authorizations and responsibilities in order to organize and implement the national standardization on the basis of the proposed new legal framework of this activity.

Communication Infrastructure and Services

The draft Strategy pays a special attention to the building of a clear and stable regulatory framework and the undertaking of measures for the development of the regulatory formulations and ordinances, for the development and updating of the telecommunication infrastructure, of precise definition of the network interfaces and architectures on the basis of European or international standards. Hence, the necessity arises of connection to information highways of remote and scarcely populated regions.

The main objective in this sphere is the provision of a wide range of telecommunications services and the universal service provision. The need of preparation of policies for the

universal and public service is taken into consideration so that all citizens and users are provided with basic private and public communication links, public, health and educational information and communications.

National Priorities by Areas

Management

With regards to management, attention is paid to the necessity of making public information and services widely available to the citizens by electronic means. The major tasks in this direction are:

- introduction of up-to-date information technologies in management and transition to paperless information exchange;
- building a unified information and communication environment, developing a state policy for national information systems, infrastructures and information services;
- building a unified information system for the national cadastre, serving as a basis of the land (property) registration, space-based information systems for the technical infrastructure, as well as for the natural resources, environment, monuments of culture, public works, real estate taxes, etc.

Economy

One of the basic objectives of the transition to IS is development of information and communication industry under conditions of equality and fair competition. The information and communication technologies are extremely important for the future competitiveness of industry, trade and services. The creation of high-technology parks as an organizational form for the information industry development is contemplated. The draft-document emphasizes the role of small and medium enterprises in creating new jobs, paying special attention to the enterprises working in the field of information and communication technologies.

The document also reflects the status of the electronic commerce as one of the fastest-developing trend in IS. The Strategy draws attention to the fact that banks have a fundamental role to play in IS not only as a mediator in the payment process, but as a documentary mediator and source of information for the state of the deal or the process. The transition to IS will also contribute in the fields of transportation, power engineering, agriculture and the environment.

Education and Scientific Investigations

The members of society should be involved in a continuous process of education and self- education using computer networks, distant learning, TV and video lectures and other means. The document emphasizes that all schools and scientific organizations shall gain access to the global information networks.

Action has been taken to develop and operate efficiently the national academic information and communication infrastructure by uniting the efforts of different

institutions - Ministry of Education and Science, Bulgarian Academy of Sciences, high schools, Bulgarian Telecommunication Company, foundations, etc. The new model of scientific investigations development should be built by new priorities and mechanisms of organization and funding - specialized research networks and co-operative telematic work at a high level of international integration.

Libraries as repositories of knowledge shall be accessible by electronic means. It is necessary to create databases on CD-ROM for inter-library exchange, building integrated library systems, telecommunication links among libraries, etc.

Social and Cultural Sphere

Regarding labor and social policy, the document draws the attention to the advantages and possibilities that IS offers for the improvement of the quality of employment and social integration of the employees. Specific measures are envisaged, aimed at facilitating the access to a productive and freely chosen form of employment, meeting the new needs of employers and employees. The national program envisages enhancement of the information infrastructure of the social security system.

The priority in health care, as stated in the Strategy, is the creation of a national computer health network that will make possible the exchange of information between physicians, hospitals, pharmacies, laboratories and pharmaceutical enterprises and the various health institutions and organizations. The second priority is associated with the medium-term introduction of electronic cards in health care in accordance with the standards adopted in EU.

The use of information and communication technologies in the cultural sphere stimulates the development of a culture industry and culture tourism, the expansion of the public participation in the cultural process, the creation of new forms of audiovisual industry in an electronic medium. Special attention shall be paid to the Bulgarian language as a “small language” and the possibilities of the information and communication technologies for presentation of Bulgarian works in other languages in the connected world.

The state has a new role in electronic media, expressing itself primarily in creating a normative basis and conditions for liberalization of the media space. At the same time, the state shall guarantee the constitutional rights of the citizens and create prerequisites for deployment.

Popularization of the IS Ideas

The Strategy pays special attention the popularization of the IS ideas. A program is to be drawn up for acquainting the general public with the basic principles and ideas of IS. Measures are to be taken to make people aware of the capabilities and risks of the usage of information and communication technologies, of national and international events in this sphere.

INTERNET INFRASTRUCTURE

PHYSICAL INFRASTRUCTURE

The physical infrastructure dedicated for the use of the Internet in Bulgaria is very limited. The chart below gives an indication of what BTC's Internet-capable digital overlay network is at present; however the ATM technology has still not been installed, due to delays in BTC's investment program:

Figure 3: BTC's Analog and Digital Overlay Networks

The Bulgarian Council of Ministers (CoM) have an ambitious plan to inter-network government workers across the nation. The first implementation is in Sofia, where about 100 national and municipal government office buildings have been linked by a fiber optic backbone. The backbone operates at 622 megabits/second using Asynchronous Transfer Mode (ATM) protocols capable of carrying voice, video, and data traffic. The local area networks within each government building provide 10/100 megabit/second data access to a government intranet and to the Internet via three external backbone links totaling 3 megabits/second. By the end of 1999, the CoM expects to have more than 7,000 government PCs connected to this network.

From a socialization perspective, having this many people exposed to the Internet on a daily basis will greatly assist in familiarizing the population with the Web's capabilities. This parallels the development of the Web in the US, where most people had their first exposure to Internet (at reasonable access speeds) at their place of employment.

Beyond Sofia, the CoM plans similar high-speed municipal networks in all major cities and larger towns. These municipal nets will interconnect using high-speed lines leased from BTC. Smaller towns and villages will be networked with lower-speed LANs and connected to the national network with land lines or VSAT links. Most municipalities are expected to be networked by 2004.

The government's embrace of the Internet goes beyond connectivity for workers. A comprehensive government Web site, http://www.government.bg, provides extensive information on the operation, plans, laws, and regulations of Bulgaria. By 2004, the CoM plans to provide free nationwide dial-in access to this Web site for all citizens.

PRICING STRUCTURE AND INTERNET ECONOMICS

Dial-Up Access

- Analogue Line : $0.03 cents, unlimited time
- Digital Line : $ 0.03 cents per 5 mins during business hours. $ 0.03 cents per 9 mins during evening and night

Leased Line Internet Access

- 64 Kbit is $930 per month
- 256 Kbit is $2,680 per month
- 512 Kbit is $4,540 per month

Average ISP Fees

- $25 per 20 hours per month.

Internet Economics

- The average salary in Bulgaria is $110 per month. The low average income of the population and low PC penetration rate (estimated at around 10% in mid-1999), and with the relatively high fees for Internet access, a limited number of private users are expected. (Present Internet penetration estimated at around 4%).
- A Nationwide Market Research Campaign undertaken for the Association of Internet Service Providers in mid-1999, found that 94% of the population were not planning to use the Internet within the next year, due primarily to the high costs involved.
- Although not directly related to economics, the fact that only 5% of the Bulgarian population speak or understand English, means the useage is likely to develop slower for surfing, while access to games may increase quicker.

APPLICATIONS AND USE OF THE INTERNET IN BULGARIA

Applications

The applications in the Bulgarian Internet market are extremely limited, and E commerce is still in the early stages of development. The Depository, Banking and Stock Exchange are similarily still in the very early stages of systems development.

Services

The following is a list of Internet services available in Bulgaria, but not all services are available from the estimated 170 active ISPs :

- Dial-up access
- ISDN access
- Leased Line access
- Mobile GSM access
- Virtual Private Networks (VPN)
- Web Hosting
- Virtual Web servers
- Web Design and Portals
- Email
- News server

Uses

It is estimated by the Association of ISPs in Bulgaria, that 90% of customers access and use the Internet only for Emails and Surfing.

DEMAND RESPONSES

Government and Private Sector Responses to Demand Needs

The Bulgarian financial sector is developing some of the prerequisites for support of electronic commerce. A currency board effectively controls monetary policy, which essentially guarantees low inflation and stable exchange rates. However, the currency board regime limits the capability of the government to stimulate growth in the economy, thereby making it harder to accelerate out of Bulgaria's current slow-growth phase.

The banking sector underwent substantial upheaval in the economic crisis of 1996-97, with the failure of more than half of the banks. Today there are 35 banks, most privately owned, and bank regulations parallel those in most western economies, which should ensure stability. Banks are interconnected by a private network, operated by a private company under the auspices of the central bank (Bulgarian National Bank). The network handles all interbank transactions. Clearing occurs on a next-day basis, with same-day clearing of all transactions – including foreign exchange – scheduled for implementation in August 2000.

The consumer economy operates mostly on a cash basis, making consumer electronic commerce problematic. Banks do not offer paper checks, nor is there a national system for clearing checks. Demand deposits (called "current" accounts) are used by a segment of the population for automatic payment of recurring bills, such as electricity and telephone, when consumers authorize the vendors to withdraw money from their current account each month.

Purchase cards are not widely available to Bulgarians. About 10% of the populace use ATM cards for cash withdrawals at about 220 teller machines nationwide. A few banks issue credit cards, but only when compensating balances are maintained. Tourist-related merchants, such as hotels and travel agencies, only accept purchase cards for payment. A very few, mostly upper class Bulgarians maintain foreign bank accounts and use that relationship to obtain a credit card (typically denominated in a foreign currency).

A new network is being created by the Bank Organization for Payments Initiated by Card (BORICA), an arm of the BNB. The BORICA system will allow point-of-sale terminals in merchant locations to be connected via the Internet to the national ATM/credit card network, enabling the use of ATM (and eventually smart cards) for purchases. This same network will allow consumers to use their ATM cards to make purchases over the Internet. The system will use existing ATM machines to validate the PIN for transactions, enabling a user-selected password for secure transmission over the network. However, the ATM cards will only work within Bulgaria. There are no plans to expand their scope by adding Visa or MasterCard imprimaturs to the existing cards.

Bulgaria lacks the consumer protection regulations that has helped make credit card usage widespread in the US and Europe. In the absence of such protections, merchants and consumers alike are reluctant to entrust their card numbers to the unknowns of the Internet.

In summary, Bulgaria has a robust financial system, but lacks the mechanisms for consumer-based electronic commerce. Widespread acceptance of purchase cards (debit or credit) has been a necessary prerequisite to the growth of e-commerce in other nations. However, business-to-business e-commerce, particularly that which involves cross-border transactions, should be handled by the Bulgarian infrastructure with little change or disruption.

Education and Social Enterprise Responses

There is a remarkably uniform positive reaction to the prospect of a greater penetration of information technology, connectivity and e-commerce into people's daily lives in Bulgaria. The Ministry of Education is eagerly pursuing plans to put computers in the schools and provide connectivity for them. These plans will obviously be limited by available resources, but that does not diminish the importance of their enthusiasm. The university system in the country is actively responding to their perception of the demand for increased training in computer science, and students are willing recruits into these programs. Again, the fact that the universities' perception of the demand may only encompass a small part of the range of the true need does not take away from the positive nature of their reaction. Similarly, the NGO community is actively engaged with

the government and other NGOs in intense discussions about public policy issues and proposed legislation related to information technology. The fact that the government may occasionally ride roughshod over its debating partners should not obscure the point that there is in fact, a national debate going on. All of these examples are testimony to a remarkable and rapid change that has taken place in the last decade in Bulgaria.

The specific issue of information technology and connectivity is widely recognized (perhaps over optimistically) as having a crucial role to play in Bulgaria's future development. There is a readiness in the mindset of Bulgarians that will help to smooth the transition into a more electronic future. Individuals, NGOs, government agencies, and private businesses are all in agreement that the net effect will be a constructive one. It is very encouraging to note that the national government is adopting a leadership role in putting public information on to the Web for public access. Copies of proposed legislation are posted side-by-side with discussion groups where individuals are invited to voice their opinions. Direct email communication with government representatives is encouraged. Private businesses are complaining not that the government requires them to submit export data electronically, but that the government is not sufficiently in compliance with EU standards for that kind of data.

The country is clearly entering into this process with enthusiasm and momentum, and perhaps with more sophistication that is true of most impoverished countries. There are many constraints, particularly on the economic and infrastructure sides, but at least the human resource base on which to build is a very strong foundation.

CONSTRAINTS TO INTERNET AND INFORMATION TECHNOLOGY

LEGISLATIVE AND REGULATORY ENVIRONMENT

PRIVATIZATION OF BULGARIAN TELECOMMUNICATIONS COMPANY

The Privatization Agency of Bulgaria in early 1998 selected and subsequently appointed Deutsche Morgan Grenfell of London as the advisors for the privatization of the Bulgarian Telecommunications Company (BTC). The Privatization Agency (PA) has been seeking strategic partners for BTC, and although negotiations are still continuing, it would appear that two foreign telecommunications companies – OTE of Greece and KPN Telecom of the Netherlands, (both former PTTs in their own countries), have formed a consortia, and are the only remaining interested parties.

The present indications are that the Privatization Agency will sell 51% of BTC for around US$520 million to the OTE/KPN consortia, and will also include a Cellular GSM Mobile License, which will be the second GSM License to be awarded. The State will, for the time being, keep the remaining 49% stake in BTC. The Government is hopeful that the negotiations will be completed by the end of this year.

However, the Committee of Posts and Telecommunications, (CPT), which is the State body responsible for BTC, has to warrant that the development of telecommunications in

Bulgaria follows the Sector policy. The Telecommunications Law of 1998, amongst many issues, provides the conditions for a universal service of the entire country at affordable prices. BTC's present license provides for these rights and obligations to be fulfilled. The CPT has to ensure that this requirement is covered in the structure of the new privatized BTC, and it is believed that this has been part of the reason for the delay in finalizing the negotiations.

This delay in finalizing the privatization program has meant that BTC has not been able to fulfil many of the investments they require to modernize and extend their infrastructure. As an example, BTC has a public tender pending for Internet equipment including backbone and access routers, dial-up devices etc., but this has been delayed until after the finalization of the negotiations. It is believed that BTC has the right strategies for prioritizing on developing digital networks, but is under restraint from higher levels.

The Government's Privatization program is being driven by the desire to join the European Union, where the modernization and development of information technologies, especially in the areas of computers and telecommunications systems and networks, is a prerequisite for membership.

Bulgaria has the highest telephone density of any Eastern European country – one phone per three persons, or 2.8 million lines, with a teledensity of around 40%, which is comparable to Spain or Ireland in the European Union. BTC has been responsible for this high penetration through investment programs until 1998, when the Board of BTC, it would appear, was instructed by the CPT to limit their investment program, especially in network development, until after the conclusion of the Privatization program. This has been particularly damaging for BTC in the area of the development of the Internet.

Although BTC has constructed and has operational a national two ring Digital Overlay Network, (DON), the technology and the transmission speeds are slow by today's standards. The digital multiplexing and transmission equipment for this DON is based on the Synchronous Digital Hierarchy (SDH), with a transmission rate of 155 Mbit/sec. In order for BTC to offer the new range and types of services – Video-conferencing, Internet etc., technological upgrades are required to this Backbone network, and in particular a national Internet Protocol (IP) network is of paramount importance, since the EU has stated that by 2003, it is estimated that a majority of communications traffic in the EU will be delivered via IP. At this time, BTC has no IP network, and this will constrain the development and spread of the Internet.

Bulgaria has been renowned for its technological innovative expertise, especially skilled software and computer engineers, and by 1994, BTC had an installed telephone base equivalent to a telephone density of 30%, but totally with analogue equipment. This has meant that large areas of rural Bulgaria, although possibly having access to a telephone line, and for 90% of subscribers access to the DON, the quality of those analogue lines is likely to be poor and antiquated, and not conducive to providing fast and reliable Internet access. BTC has been investing heavily in digital equipment upgrading in the urban environments, which combined with the installation of the DON backbone network and increased circuits for terrestrial international connectivity, has provided a base for

further network development, but there still remains large areas of Bulgaria without the good connectivity necessary for quality Internet access.

The international Internet connectivity is the monopoly of BTC and although at present the bandwidth available is between 40 and 48 Mbps, of which 75% is via satellite, the remaining 25% by terrestrial fiber optic cable, this will not support the expected demand for Internet services in the country. BTC has allowed subscribers to have direct international satellite connectivity, following an agreement with Loral Orion from the United States, but the cost of this service is high for Bulgarian organizations – e.g., US $12,000 for 512 Kbit per month.

Similarly, BTC has high costs for national leased lines, where it costs for 100 kilometers, approximately US$ 3,000 per month for a 2 Mb leased line. With a $25 per month Internet access fee and the average Bulgarian salary being around $110 per month, and even with BTC encouraging night time access with cheaper calls, the cost is expensive for the ordinary citizen.

BTC maintains the company has a totally liberalized environment for the Internet, and that there are no technological or legal barriers to impede the development and expansion of the Internet in Bulgaria. However, due to the tardiness of the BTC privatization discussions, the required infrastructure investments needed for the growth and development of the Internet in Bulgaria, will delay the maturity of this market.

Current Status of Internet Regulations

There is prevailing concern in some circles of the potential for over-regulation over Bulgaria's Internet access. Several reasons for concern were listed including various articles in the recent Telecommunications Act of 1998 (articles 78.8 and 38). The Act provides the Government with unlimited access to ISP information and requires them to be "licensed". The licensing process is apparently also contrary to the European Standards for Internet development and is in contradiction to Article 10 of the UN Conventions on Human Rights to which Bulgaria is a signatory.

Bulgaria's representative to the Internet Society, an internationally recognized, non-profit organization charged with monitoring the development of the Internet, Mr. Markovski, has initiated a Law suit against the Bulgarian government and the court has provided an injunction against the government acting on the licensing provision pending a decision. In the meantime, support for the cause has been received from the Internet Society based in Reston, Virginia and several European Organizations including the Parliamentary Assembly of the Council of Europe. Additional support has been received from the Center for Citizens Control of Acts and Actions of Administration which, in turn, is supported by the Soros Foundation. The legislation, as it currently stands, may directly and significantly impede the privacy of information, delay Internet development and discourage the use of the medium for civil debate if the government prevails.

Other legislative reforms, however, are more promising. For example, efforts to develop and pass a "digital signature" law shows widespread support and would be a significant boost to electronic commerce. Likewise, activities to development legislation for

governing telework and electronic trade are also underway with the Internet Alliance acting as a newly established coalition forum for generating debate on these subjects.

Ancillary legislation that potentially will affect the development and use of the Internet for Development is also underway in the form of a "High-Technology Park" law. This legislation is being debated in the Council of Ministers and would provide substantive incentives to the development of high-technology parks, knowledge parks and clean industry development. However, the construction of the legislation is less than ideal for attracting foreign investment, which concerns private sector supporters of the legislation. (See Annex C for a full-text English version.)

ACCESS AND INFRASTRUCTURE

In the earlier sections about access and infrastructure, we describe the nature of what had been created and what was being planned. In this section, we note some of the ways in which this infrastructure and these plans impose constraints on the direction and speed which Bulgaria may travel in its journey toward better use of information technology and connectivity. In many ways, Bulgaria is a very good position to make systematic use of IT in its development plans.

Because of its history as a center of excellence for software within the Soviet bloc, it now has two extremely valuable assets. One of those is the human capital of people with computer and software experience who can now play a significant role in expanding the impact within the country. The other asset is the fact that many of the senior professionals and managers in the country and much of the government's policy apparatus has a high degree of sophistication about the role that information technology, Internet applications, and e-commerce can play in Bulgaria's development. This sophistication has led to a sometimes annoying necessity for wide-ranging participation in policy development, but in fact this is probably a benefit. The added stimulus of the desire to comply with the requirements for EU accession has led them to approach many of the topics with real commitment to developing a thorough and well thought out policy. In most of the rest of the world, the procedure is reversed – individuals and businesses become involved in Internet and e-commerce long before the country is considering the development of any kind of policy to control it.

RURAL VERSUS URBAN ACCESS

There are real disparities between were rural and urban areas in terms of their access to both computing and connectivity. The concentration of population, expertise, and infrastructure within a relatively small number of cities has meant that the natural growth path for information technology used in Bulgaria is very heavily urban. The same is true of their national investment in telecommunications infrastructure. While the development of the digital overlay network offers access at some level for some of the smaller towns, most of the more isolated places do not have and are not likely to get decent access in any realistic time frame through terrestrial telecommunications.

There is some potential that the conversion of the GSM system owned by Mobil Tel to the GPRS standard will allow higher speed data connections from communities that

have access to the cellular network but not to the digital overlay network. This could potentially make channels of up to 384 Kbits available in much smaller communities. However, pricing is not yet determined for the service, and it may not be affordable for rural communities. Unless BTC were to decide to make some of its were rural analog lines available for dedicated service for data transmission at vastly lower rates than they currently do, there may not be many alternate choices for the rural communities.

COST OF SERVICES

Bulgaria has enormously expensive telephone charges, particularly for international service. They currently charge local calls at a time dependent rate, which is a major constraint for both individual users of Internet services and small businesses or telecenters that cannot afford dedicated lines. They could address this in several ways. They could establish separate tariffs for Internet access and charge them at heavily discounted rates in order to jump start the country's use electronic information. This is effectively what will happen if they fulfill their promise to provide free access to Internet sometime in the next few years.

Despite the high communication charges, they are relatively competitive with world costs for computer equipment, and their salary levels are quite low. Thus if they were able to solve the problem of high communications costs, they would presumably be able to offer services at rates that the average Bulgarian could afford. Even with the high communication costs, the entrepreneur whose telecenter is pictured above is able to charge just one dollar per hour for the multiuser gaming (which just uses the local area network and does not use connectivity), and three dollars per hour for online activity.

Another approach to selling the high-cost issue is to take measures to aggregate the market and use its consolidated buying power to negotiate lower rates. If USAID follows the path of supporting improved rural access to the Internet, this path may offer some promise. Similarly, the advent of competition usually has a downward pressure on pricing. USAID might also employ its leverage to help accelerate and structure the competition in the Internet access provision for rural areas.

GOVERNMENT NETWORKS

One development occurring in Bulgaria today is the tendency for large customers to establish private physical networks to support their own communication needs. We see this process happening in Bulgaria with the municipal network for Sofia and other municipalities, the proposed Ministry of Education network, and the Ministry of Defense network. In Bulgaria's case, these networks may or may not produce a cost savings for the organizations that are implementing them, but they almost certainly imply a cost penalty for those users who remain in the standard national network. Once the traffic of these high-volume users is removed from the system, the traffic volume of the remaining users must support the entire cost of the public network.

In general, the implication of creating private physical networks will be negative unless the owners of those networks make them available to the public in the areas where they provide service. It is often difficult for a government-paid physical network to enter into

direct competition with a commercial provider; the commercial provider makes the justifiable argument that it is unfair to compete against a carrier that can sell its excess capacity to the public at a low marginal cost. However, there is a solution to this conundrum. If the government networks are created as virtual private networks utilizing public infrastructure (as opposed to physical private networks utilizing their own proprietary infrastructure) then the inclusion of the government demand in the traffic base used to amortize the cost of the common physical infrastructure reduces the prices for everyone.

This is a particularly thorny issue in rural areas, because the government institutions in rural areas often comprise a very very large proportion of the total communications traffic in and out. If that traffic is removed from the equation, the remaining non-governmental users are likely to find it prohibitively expensive to buy communication services from the public network. USAID intervention might be helpful to keep the Bulgarian government mindful of these issues. The virtual private network solution need not compromise the capacity or security available to the government; the cost savings of putting the traffic on the same physical network will still be available to both user groups. In Bulgaria's case, for example, the creation of the Sofia fiber-optic network may not be too damaging for the residents of the capital, because they represent such a large market anyway. However if the government were to continue to construct proprietary networks for other, smaller municipalities, or in even smaller communities, it will certainly have a negative impact on the costs to the public. At this point, there is still time for the remainder of the municipal networks to be constructed in a way that is not punishing to rural communities. Future capacity could be purchased from the national carrier, thus providing down with additional business and capital to expand their system. Even if the municipal network has already purchased proprietary capacity in places where the national carrier does not have adequate facilities, some method of merging their infrastructure could be accomplished.

This particular example demonstrates a principle that is repeated in many aspects of telecommunications. There are real efficiencies of scale, and the creation of physical private networks actively works against achieving those efficiencies. The less creation of vertical private networks on proprietary infrastructure, the better for everyone. The appropriate strategy is to create the effect of a private network by creating a "virtual" private network on common infrastructure. This helps to aggregate the market in a way that makes it feasible to provide service to more remote areas than otherwise would be possible. USAID could play an important role in reinforcing this point while Bulgaria's telecommunication infrastructure develops.

CAPACITY, EDUCATION AND AWARENESS

TRAINING FOR NETWORK AND APPLICATIONS MANAGEMENT

One important question to consider is whether the Bulgarian educational system is producing a sufficient supply of the right kinds of technicians and professionals to enable the country to maintain its hectic pace towards computerization. As more and more organizations computerize at least part of their operations, each one will need new staff

members to support their information technology. In an ideal world, educational institutions would be anticipating that rapid growth in demand, and implementing programs to meet it. In the real world, the more common experience is that supplying lags behind demand for such people, distorting the market price for their services and interfering with their ability to sustain reliable network services. Our examination of the state of training in Bulgaria today revealed that is very much part of the real world.

At the university level, there is strong interest in computer-related training and education. Interest is equally intense both on the supply side, with the universities supplying programs, and on the demand side, with students who see this as an excellent career opportunity. In general, the university course offerings have focused primarily on the software development side, rather than on the network management side. The universal goal of the university programs seems to be the training of a core of programmers who would be involved in application development. Their course offerings are concentrated on the theory of programming and on gaining skills in specific languages. By comparison, there is a dearth of offerings relating to the more practical, operational skills required to keep networks running. One way to look at this is that the supply side is concentrating on training for prestige roles, and is neglecting the numerically larger demand for trained people at the operational levels.

The result of this one-sided focus in the educational system related to computing skills is that there is a relatively large cadre of people with programming skills who end up professionally underutilized. In modern times few organizations use in-house programmers to develop proprietary applications. Most organizations rely on publicly available generic applications for such functions as accounting and inventory control; in cases where some customization for their business practices is necessary, they are more likely to rely on custom programming by the publisher of the generic package, then on an in-house programmer.

An additional result is that organizations have difficulty filling operational positions for designing and running their networks. Many of the people fulfilling these roles are self trained, or have learned on the job. The lack of a large pool of potential candidates, and the lack of formal preparation to acknowledged professional standards, is already impeding Bulgaria's progress. This problem has a particularly strong impact on NGOs, who find it difficult to compete on the basis of price against corporate demand for capable people. Unless action is taken to augment the supply of trained, operational-level network managers the NGO community will suffer disproportionately.

To their credit, the universities seemed open about offering a broader array of courses. When asked, they replied that they were at least willing to consider courses leading to certification in such things as Novell networking software or Cisco router applications. However, the training and personal interests of the faculty members are still primarily on the software development and theory side. It is an open question as to whether wrapping up to meet demand for network managers is best thought of as an additional activity that should be taken on by universities, or as an opportunity for more focused technical training from commercial trainers. In either case, it would be a useful contribution to help rectify the imbalance in supply.

EDUCATION AND TRAINING FOR USER PARTICIPATION

A second major question has to do with how well Bulgaria is preparing its population to participate in world where information technology is pervasive. Individuals who will be fulfilling substantive roles within organizations need to acquire two different kinds of skills -- they need enough familiarity with computing and applications programs to become competent users, and they need a vision of the way in which information technology can be used to support their business processes and objectives.

We frequently encountered rather polarized answers to questions about whether lack of access to computers or lack of understanding and familiarity was the bigger constraint. Many people commented on the lack of demand in rural areas as a symptom which indicated the need for a large-scale public awareness campaign. Others pointed with apparent accuracy to the many examples of enthusiastic demand that could be found in the rural areas. It is most likely that the underlying reality is in fact polarized -- there are many, both in cities and in rural areas, who do not yet see the relevance and advantages that information technology could offer, while simultaneously there is a pool of intense demand from a smaller number of people who do have the interest in the vision, but who do not have access to computers or connectivity. There is undoubtedly no single answer to the dilemma about whether one should first build awareness and demand, or augment supply and let the early adopters lead by example. Within the context of today's Bulgaria, both strategies would make a positive contribution.

At the moment, educational programs in Bulgaria for user-level computer literacy are rare. While the Ministry of Education is developing ambitious plans to equip schools with computer laboratories and provide training for both teachers and students, it will be some time before financial and logistical constraints will permit a large-scale implementation of this. There are some potential opportunities for the mission to make relatively small interventions that would have a much larger impact in steering the direction that the larger educational community takes towards supplying training in computer literacy and awareness.

Among those who are already somewhat aware, lack of access to computers and to connectivity represents an overwhelming obstacle that prevents them from pursuing their interest. The intensity of interest within this already aware group is quite strong, and various mechanisms are evolving to help meet that demand. In the larger cities, there is a minor proliferation of Internet cafes, where one can pay an hourly fee for computer access. Typically, the manager of Internet cafe is an experienced computer user, and spends a great deal of his or her time providing informal training and technical support to the customers.

Within the larger cities, these Internet cafes are heavily attended, and are meeting a small part of the latent demand that exists. However, outside of the major cities there is often no way for a person who has become interested to pursue that interest. Internet cafes represent only one model of a public access point; a wide range of organizational structures can serve similar functions. Figure 4 illustrates one of those models – a small, four-computer setup in a corner of a food kiosk in the town of Bankya – which was

Figure 4: A Small Telecenter Serves a Full House in Bankya

offering access to computer software applications, the Internet, and multi-user gaming to a full house.

SIMULTANEOUS NEEDS FOR AWARENESS AND ACCESS

The debate over whether to focus first on public awareness, or first on increasing access probably represents an inappropriate casting of the question as one having mutually exclusive answers. Obviously, it will accomplish little if public awareness is increased but immediately thwarted because there is no avenue for responding to the new interest. Provision of access points needs to grow in parallel with an increase in awareness. Public information campaigns would work best in environment where there were some local examples of applications to give substance to the information people are receiving. Information alone will not be able to generate any momentum if there is no ability to put the information into practice. On the other hand, there is a small group already eager to get access; the enthusiasm of that group will contribute toward a word-of-mouth amplification of any public information efforts.

USAID could take a significant leadership role in moving the national context forward by focusing on this duel information/access problem. A strategy is needed to catalyze as the establishment of access points outside of the larger cities, and to conduct public information and awareness efforts that will feed into the demand to make those new

access points financially self sustaining. One model for doing this has been developed in Haiti by another Presidential Initiative team. There, they are planning to offer a competitive procurement for organizations that would like to establish access points outside of the capital. Successful bidders would receive a grant or a loan to acquire the equipment, plus technical assistance and training to maximize their probabilities of success. In Haiti's case, it is probable that the bidders would come from among the ranks of Internet service providers, but that is not a requirement. In Bulgaria, such an approach would certainly arouse interest among the ISPs, but it would probably also draw interest from private entrepreneurs, NGOs, and some uniquely Bulgarian institutions such as the "chitalishte" or public reading room. All of these organizations are potentially useful allies and could be long-term players in the provision of public access to information technology.

A USAID-supported program could capitalize on the enthusiasm of these organizations and entrepreneurs by offering them support in several different ways:

- most of the entrepreneurs will not be technically sophisticated and will need training in computer skills;
- many of the entrepreneurs will also need training in business management, marketing, and business law;
- almost all participants in such a program would benefit from assistance in connectivity -- ranging from a utilizing their collective bargaining power to negotiate better pricing, to receiving technical help with alternate communication channels;
- the existence of such a program would, in promoting itself and its services, be helping to fulfill the information needs for the currently unaware part of the population;
- participants would probably need help in deciding what services to offer and how to price them, particularly if the seemingly best option for sustainability involved offering non-computer-based business services, such as long distance telephone calls, faxes, and photo copying;
- participants in the program could be provided with centrally produced interactive training in computer applications, which could be delivered by CD-ROM, to ease the logistic demand on the center operators while at the same time accomplishing the overall computer literacy goals and creating a market to help sustain the centers;
- given the low technical capabilities of most telecenter operators, it would be helpful to provide a technical troubleshooting capability through the project to support them when they encounter problems.

ANNEX A: USAID/BULGARIA: SCOPE OF WORK FOR COUNTRY ASSESSMENT FOR THE PRESIDENTIAL INITIATIVE ON INTERNET FOR ECONOMIC DEVELOPMENT

INTRODUCTION

USAID/Bulgaria's country strategy, adopted in early 1998, is designed to accelerate the country's transition to a market-oriented democracy, to assist Bulgaria to meet key EU accession criteria, and to "graduate" the country from U. S. assistance. Two broad goals are the twin pillars of the USAID/Bulgaria program – "fostering the emergence of a competitive, market-oriented economy", and "supporting the transition to transparent and accountable governance and the empowerment of citizens through democratic political processes." The mission strategy can be supported by activities targeting the Bulgaria's fledgling information technology sector.

USAID is developing a range of initiatives designed to promote broader use of the Internet to achieve sustainable outcomes in developing countries. These initiatives follow on prior USAID work in this area, such as the Leland Initiative in Africa, which focused on three key phases of Internet access: "policy, pipes and people." Private companies, national governments and economic development agencies are devoting more attention on the implications of information technology in stimulating economic growth and fostering social equity. The rapid pace of change, the need to achieve global competitiveness and the threat of a gap between information "haves" and "have-nots" are causing leaders to focus on this issue. At the same time, e-commerce promises to bring profound transformations to the marketplace by linking buyers and sellers and threatening enterprises that traditionally have functioned as intermediaries or that have mainly used traditional channels to export and distribute their product. More so, the promise of the internet extends far beyond e-commerce, and has the potential to be a broad-based development tool which increases the efficacy and reduces the cost of program implementation is all Strategic Objective areas.

OBJECTIVE

The objective of this two-week in-country Internet/Technology assessment is to identify opportunities where Internet can increase the impact of USAID/Bulgaria's existing activities, and to develop a broad strategy that will be the basis for specific activities and undertakings. Under the Presidential Internet Initiative, USAID/Bulgaria will consider support for viable host government, NGO, local government, and private sector activities that will promote broad and rapid diffusion of information technology and Internet access/connectivity. The goal is to increase access to information thus supporting more efficient markets and contributing to greater public participation in more democratic local and national governance.

TASKS/WORK REQUIREMENTS

Study of USAID/Bulgaria strategy and current country portfolio

- The team shall get acquainted with USAID/Bulgaria strategy, latest R4 reports and other major recently published documents. Further, the team shall examine major Mission activities, and identify opportunities for the implementation of Internet initiatives as well as evaluate the potential value-added Internet measures could provide to those activities. A list of current activities in the country is attached to this SOW. Work on this task shall start in the U.S. with studying the documents and shall continue in the country. The team shall meet USAID/Bulgaria SOTs and get a better understanding of the programs.

Research of Laws and E-Commerce and E-Business Conditions in Bulgaria

- **Phase I:** The exercise begins in the USA by evaluating the current status of information technology, Internet access and E-Commerce as it is currently emerging worldwide and as it is currently being accessed in the host country. This is done utilizing internationally available data and information. The analysis includes the current information technology status of Bulgaria as measured by computer ubiquity, Internet utilization, educational levels, telecommunications density, language, service exports and policy factors associated with rapid adoption of international technology. The country is then ranked alongside all other countries for which data are available. This is supplemented with qualitative analysis based on internationally available sources. The implications of these findings for country competitiveness and social equity are also assessed.
- **Phase II:** A more in-depth assessment of legal and regulatory environment on E-commerce and Internet: The team will meet and work with mission personnel and counterparts to collect and evaluate the laws, policies and regulations in effect in the host country that affect electronic commerce. A list of the important entities to meet shall be prepared by the Mission. The outcome of this activity shall be to identify and evaluate any legislative or regulatory obstacles to broader penetration of Internet technology and e-commerce.

Facilitate Dialogue of Leadership Constraints:

- Conduct a dialogue with leadership on Internet constraints: The team will present initial preliminary findings to key leaders by making a presentation of the above-mentioned Analysis of Current Status. This allows the team to get excellent feedback and open doors for the ensuing analysis in country. Perhaps more important than the analysis itself is the delicate process of helping the local leadership to become aware of the coming challenges and opportunities and to facilitate their own responses.
- Increase government and private sector knowledge about how the use of the Internet and e-mail can speed economic development in Bulgaria, with particular emphasis on a review of the private sector as it affects USAID's overall development strategy and implications for multiplying and leveraging positive development results.

Assess Internet-Related Activities of Other Donors in the Country

The team shall meet and discuss regulatory and implementation issues with representatives of the World Bank, UNDP, EU and other bilateral donors if appropriate. The purpose shall be to identify opportunities for cooperation and/or better coordination.

Develop Strategies and Recommend Priorities for Incorporating the Internet, E-Commerce and Other Information Technology Features into Existing Initiatives.

In order to do that the team shall meet with host-country counterparts, implementers and other interested parties to identify prospective partners in developing and implementing Internet initiatives:

- Provide an opportunity for mission review of information technology capacity in Bulgaria, and bring a focus to current activities that can be leveraged by e-commerce and other information technology add-ons.
- Compile a list of non-governmental organizations and other interactive groups working within the context of the Mission strategy statement that could benefit from recommendations relating to e-commerce and other Internet-based activities.
- Provide a medium for government to government interactions that include the use of Internet-related programs for existing and future activities pursuant to the mission strategy and development portfolio.
- Identify specific opportunities for mission SO's to increase the use of the Internet, including, for example, computer-assisted training for accountancy.

The two major questions that should be answered are:

- What activities of USAID/Bulgaria can be enhanced by incorporating the use of Information Technology (IT), particularly the Internet?
- What additional applications of IT and the Internet might the Mission consider?

The recommendations should address the following major areas but should not be only limited to those:

- Improved Productivity and Economic Growth
- Better Performing Administrative System at Bulgarian Courts
- Facilitating Communications, Creating Linkages – in the country and throughout the region
- Training/Capacity-Building
- NGO Networks
- Education

DELIVERABLES

- A draft assessment report will be provided to the Mission for discussion at the end of the team's visit to the country. The draft should include at a minimum an outline of the major issues that will be addressed;

- A final assessment on the needs and focus of Internet activities to be undertaken in Bulgaria shall be prepared within 2 weeks following the trip. This report shall be provided to USAID/Bulgaria and will serve as a guide to developing and implementing specific projects.

The report will identify the laws, regulations and policies that must be enacted or amended by national, regional or local legislative bodies. Among those laws to be assessed would be: tax and customs duties, the protection of intellectual property, the protection of privacy (including patents, trademarks, copyrights and domain names), encryption and authentication protocols, fraud and consumer protection, and "computer crime." Other recommendations may include action points for initiating or advancing specific Internet activities in the host country.

METHODOLOGY

This activity is designed as an assessment, not an in-depth study, although one of the outputs of the exercise will be a comprehensive analysis of the constraints and opportunities for broadened application/adoption of Internet technologies in Bulgaria.

Advance Research of Laws and E-Commerce and E-Business Conditions in Bulgaria

The activity begins in the USA by evaluating the current status of the USAID Program Strategy and how Internet activities can leverage specific results. Included in this effort will be a review of the legal, regulatory and business climate for expanded e-commerce. This pre-departure work is done utilizing internationally available data and information. The analysis includes the current information technology status of Bulgaria as measured by computer penetration, Internet utilization, educational levels, telecommunications density, language, service exports, legal and regulatory frameworks, and other policy factors associated with rapid adoption of information technology. A specially designed self-assessment (conducted on-line or on paper) on e-commerce readiness will be completed by the in-country leadership during this phase.

In-country Presentations and Focus Groups

The assessment team will travel to Bulgaria and present initial findings and recommendations in a forum involving local interests and stakeholders.

The team will assess Bulgaria's information technology capacity, and identify existing activities that could support expanded internet/e-commerce. The focus will be to identify public and private sector organizations/entities which would have a demand for internet services, could provide goods or services for export via internet, or which would use internet to disseminate market information. Examples include commodity price, tourism-related information, or parliamentary information.

Focus groups will be the primary means for discussions and additional data collection. They shall be conducted by skilled facilitators and will include NGOs, business associations, political advocacy groups and public-private groups; will be organized by interest area (e.g., legal and regulatory reform commissions, bar associations, finance

ministry, trade ministry, etc.). Presentations will also be made to the donor community to prepare a comprehensive map of interventions taking place in the area of e-commerce and legal and regulatory reform.

Country Assessment and Web Site

In order to build on the relationships developed during the assessment period, the team will produce a tailored web site for in-country activities. This site will include provision for national stakeholders to remain in contact with the USAID and the Interagency Committee for the Initiative. This should allow an ongoing web-based discussion with peers in country and colleagues in other countries facing similar challenges. The site also will provide a repository of information on Internet applications including e-commerce and legal and regulatory reform related to Bulgaria.

OPERATIONAL ISSUES

In sum, the assessment team members provide a blueprint for USAID/Bulgaria to consider in implementing Internet applications and e-commerce strategy within the existing USAID Bulgaria Strategy Statement. The assessment shall take approximately 5 weeks and involves a team leader and four team members. The team shall work in the field for the period of September 20 – October 2, 1999.

ANNEX B: REPUBLIC OF BULGARIA, NATIONAL ASSEMBLY, TELECOMMUNICATIONS LAW

(Published in State Gazette, Issue 93, 1998)

CHAPTER ONE - GENERAL PROVISIONS

Art.1.This Law shall regulate the public relations connected with the carrying out of telecommunications in the Republic of Bulgaria.

Art. 2. (1) The aim of this Law is to create a framework, ensuring the satisfaction of the public demand for telecommunications services.

(2) This Law provides conditions for:

1. liberalization of telecommunications activities and services, establishment of a free market and loyal competition;

2. fair and non-discriminatory treatment of the operators;

3. provision of universal service on the territory of the entire country at affordable prices;

4. protection of the national security interests.

Art. 3. (1) Telecommunications means conveying, transmitting or receiving of characters, signals, text, images, sound or information of any kind by wire, radio waves, optical or other electromagnetic medium.

(2) Telecommunications activity means performance of telecommunications through establishment, maintenance and operation of telecommunications networks and/or provision of telecommunications services.

(3) Universal service means a service with a determined quality of provision, accessible to any user, regardless of his geographical location and offered at an affordable price. A universal service is the ordinary voice telephony service, provided via the fixed telephony network.

Art. 4. Telecommunications shall be carried out by telecommunications operators on the grounds of individual, class or general licenses.

Art. 5. The management and regulation authorities, and the public telecommunications operators shall guarantee the freedom and confidentiality of telecommunications.

CHAPTER TWO - MANAGEMENT OF TELECOMMUNICATIONS ACTIVITIES

Section I

MANAGEMENT

Art. 6. The telecommunications activities are managed by the Council of Ministers (CoM) , the National Radio Frequency Spectrum Council and by the Committee of Posts and Telecommunications (CPT) , according to their powers, as specified by this Law.

Art. 7. (1) The Council of Ministers shall lay down the state policy in the field of telecommunications by approving a Sector policy statement. The Sector policy shall be promulgated in the State Gazette.

(2) The Sector policy determines the strategy, principles and stages of development of the telecommunications sector and shall contain the types of activities and services as well as the time schedule of their liberalization.

(3) The sector policy may be updated annually, or in shorter time intervals, in the order in which it has been adopted.

Art. 8. (1) The Council of Ministers shall approve the granting of licenses for establishment of telecommunications networks and provision of telecommunications services, using radio frequency spectrum.

(2) The approval of the licenses under Art 8. (1) by the Council of Ministers shall be carried out in compliance with the law, and in accordance with the public interest, state sovereignty, and national security.

Art. 9. The National Radio Frequency Spectrum Council at the Council of Ministers shall pursue the state policy on the radio frequency spectrum.

Art. 10. The CPT shall pursue the telecommunications policy on the basis of the present Law and the Sector policy adopted by the Council of Ministers.

Section II

NATIONAL RADIO FREQUENCY SPECTRUM COUNCIL

Art. 11. (1) A National Radio Frequency Spectrum Council shall be established at the Council of Ministers. Members of this Council shall be representatives of the CPT, the State Telecommunications Commission, the Ministry of Finance, the Ministry of Industry, the Transport Ministry, the Ministry of Defense and the Mi8nistry of Interior.

(2) The Chairman of the Council shall be appointed by the Council of Ministers for a term of four years. The Council members perform their obligations during the term of office of the Council's chairman.

(3) The heads of the authorities under paragraph 1 shall appoint their representatives and ensure their participation in the Council's activities.

(4) On proposal of the Council's Chairman, the Council of Ministers shall adopt the working regulations of the Council.

(5) The administrative support of the Council shall be provided by the authority, whose representative is the Council's Chairman.

Art. 12. (1) The National Radio Frequency Spectrum Council shall prepare and periodically update, and the Council of Ministers shall approve, a National frequency plan for the allocation of radio frequencies and radio frequency bands from the radio frequency spectrum for civil needs, for the needs of defense and of security, and for shared use.

(2) The National Frequency Plan of the radio frequency spectrum shall be open to the public.

(3) The specific allocation of the radio frequencies and radio frequency bands for shared use for civil purposes, national defense purposes and security purposes shall be agreed between the concerned authorities.

(4) The Council shall consider and settle any disputes relating to electromagnetic compatibility arising between the users of the radio frequency spectrum mentioned in Par. 3.

Section III

COMMITTEE OF POSTS AND TELECOMMUNICATIONS

Art. 13. (1) The CPT shall prepare, submit to the Council of Ministers for approval, and pursue the sector policy in the telecommunications sector. (2) The sector policy shall comply with the telecom policies in EU as far as possible under the circumstances in Bulgaria.

Art. 14. The CPT shall exercise the rights of the capital owner in the State-owned companies, as well as in those companies in telecommunications sector where the State is a share holder or a partner.

Art. 15. The CPT shall carry out activities relating to:

1. restructuring of the sector;

2. research and development in telecommunications;

3. development of the Information society;

4. Eurointegration;

5. management of postal communications;

6. management of the budget funds for the professional educational institutions, for professional training, and for the defense and mobilization training of the military units in the telecommunications sector;

7. management of the activities and logistics of the military units of the telecommunications sector in time of war and peace.

Art. 16. The CPT Chairman shall:

1. approve the principles of the National numbering plan;

2. represent the Republic of Bulgaria in the International Telecommunications organizations;

3. issue the regulations, instructions, ordinances and other acts in the field of telecommunications, as provided for by law.

Art. 17. Before issue of the acts referred to in Art. 16 (3) , the CPT shall publish in the national and local press an announcement about drafts of the acts, which announcement shall indicate where the affected persons can obtain copies of those drafts and the timetable for presenting an opinion in writing. The CPT shall dully consider the opinions and, thereafter, shall issue a written decision containing its reason for adopting, or declining to adopt any such opinions.

CHAPTER THREE - NATIONAL COMMUNICATIONS SYSTEM FUND

Art. 18. (1) A National Communications System Fund (NCS Fund) is established with the CPT.

(2) The National Communications System Fund shall aim at assisting the development and upgrade of the national telecommunications and postal infrastructures.

Art. 19. The resources of the NCS Fund shall be raised from:

1. 5% of the initial license fees set out in the licenses granted as per Chapter V, Section II;

2. 20% of the annual radio frequency fees set out in the licenses granted as per Chapter V, Section II;

3. donations and wills;

4. income from interest on money in financial institutions;

5. other revenue.

Art. 20. (1) The resources of the NCS Fund shall be used for:

1. Funding of telecommunications and postal projects of national importance.

2. Funding of important telecommunications projects related to the governing, defense and security of the country;

3. Funding of R&D of national importance;

4. Reallocation of radio frequency spectrum from government to civil use;

5. Management of the fund;

6. Other expenses related to the organization and implementation of telecommunications and postal projects.

(2) Financing of the activities under (1) .1 and (1) .3 shall be carried out in accordance with the principles of fair competition between the operators, transparency and non-discriminatory treatment.

(3) The conditions for raising and allocation of NCS Fund money shall be set out in a Regulation issued by the Chairman of the CPT.

Art. 21. (1) The NCS Fund shall be managed by a Managing Committee whose members shall be appointed by the CPT Chairman.

(2) The Chairman of CPT shall also be Chairman of the Managing Committee.

(3) The Managing Committee shall adopt its working regulations in co-ordination with the Minister of Finance.

CHAPTER FOUR - REGULATION AND CONTROL OF THE TELECOMMUNICATIONS ACTIVITIES

Section 1

STATE TELECOMMUNICATIONS COMMISSION

Art. 22. (1) The State Telecommunications Commission (STC) is a state authority with the Council of Ministers. The Commission is a legal entity with budget funding and headquarters in Sofia.

(2) The STC is a primary authority regarding the use of allocated budget funds.

(3) The STC shall pursue the Sector policy by regulating and controlling the telecommunications, and the postal communications, in a defined by law way.

Art. 23. (1) The STC is a collective body consisting of five members, including a Chairman and his Deputy.

(2) STC members shall be designated by a CoM regulation and appointed by the Prime minister with a seven-year term of office. There can be no more than two consecutive terms.

(3) Owners, partners, directors, procurators or members of the management of companies, that have telecommunications as their scope of activities, are prohibited from being members of the State Telecommunications Commission.

(4) STC members can be released prior expiration of their term of office:

1. because of resignation;

2. for commitment of a grave offense against the present Law;

3. for grave, or regular, breaches of official duties;

4. for commitment of a criminal offense, established by an effective court sentence;

5. for inability to perform their duties for more than six months.

Art. 24. The Chairman shall:

1. organize and manage STC activities;

2. represent STC;

3. authorize other persons to carry out certain activities.

Art. 25. STC acts can be appealed in accordance with the provisions of the Law on Administrative Proceedings.

Art. 26. (1) STC activities, structure, operational organization, and the work of the members and administrative staff shall be set out in special STC regulations, adopted by the Council of Ministers.

(2) STC's administrative staff average salary cannot be lower than the average for the personnel, employed in the telecommunications sector. When specifying the average salary of the administrative staff, STC's members compensation is not to be taken into account.

Section II

FUNCTIONS OF THE STATE TELECOMMUNICATIONS COMMISSION

Art. 27. The STC shall carry out the following activities:

1. convey a preliminary study of the necessity and technical feasibility of the issue of a license for the establishment of telecommunications networks and for provision of public telecommunications services, using radio frequency spectrum. A regulation of the Chairman of the CPT shall establish the proceedings of the study..

2. prepare the documents and carry out the necessary activities relating to the granting of the licenses referred to in this Law;

3. grant, amend, supplement, suspend, terminate and revoke licenses for telecommunications activities.

4. grant, amend, supplement, suspend, terminate and revoke licenses for establishment of telecommunications networks and provision of telecommunications services, using radio frequency spectrum after CoM approval.

5. grant, amend, supplement, suspend, terminate and revoke licenses for radio- and television activities upon decision of the National Radio and Television Council (NRTVC) ;

6. grant, terminate and revoke the licenses under 5. above, which are using radio frequency spectrum, upon decision of the National Radio and Television Council and a CoM approval;

7. provides the necessary conditions for carrying out of telecommunications activities in case of maritime or air search and rescuing, as well as safety information.

8. prepare the National numbering plan and allocate it among the operators in compliance with the adopted principles;

9. draft, co-ordinate and propose to the CPT the secondary legislation referred to in this Law;

10.inform the public and carry out public consultations and opinion polls on important telecommunications issues.

Art. 28. STC shall exercise the following functions related to the management of the radio frequency spectrum:

1. develop the radio frequency spectrum management policy and manage the spectrum, allocated for civil purposes;

2. upon request, and after consultations with the concerned parties, carry out the international co-ordination of radio frequencies and radio frequency bands as well as of the equipment for their use. The international co-ordination shall involve all radio services (according to the appendix) ;

3. carry out the national co-ordination of radio frequencies and radio frequency bands as well as the equipment for their use for all civil purposes with all concerned parties. The co-ordination is carried out for the safety of the air and sea navigation. For national security reasons, the national co-ordination is also carried out with the country's defense and security authorities. National co-ordination shall apply to all radio services which use radio-frequency spectrum for civil purposes;

4. upon request from the concerned parties, register with the international telecommunications organizations the radio frequencies and frequency bands that have been coordinated, and the equipment for their use. Registration shall apply to all radio services;

5. issue the following permits:

a) for import of emitting radio equipment for civil use, in accordance with the import regime approved by the Council of Ministers;

b) for production and/or distribution of emitting radio equipment for civil purposes on the territory of the country;

c) for legal capacity of radio operators -- both professional and amateur. The qualification permits of the radio operators of the aeronautical mobile service, the satellite mobile service, the World Naval Safety System of the sea mobile and sea satellite mobile services shall be issued by the Transport Ministry;

d) for performance of laboratory tests on radio equipment;

6. monitor the observance of the requirements for electromagnetic compatibility and of the rules for the radio frequency spectrum use for civil purposes;

7. monitor the observance of the internationally approved procedural rules for all radio services;

8. define the calling signs of transmitting radio equipment in accordance with the international rules of operation of the radio services;

9. assigns the activities related to maritime and air search and rescuing, as well as the distribution of current safety information concerning the maritime and air traffic, to a licensed public telecommunications operator;

10. participate, jointly with the CPT, in the work of the international organizations engaged in the management of the radio frequency spectrum;

11. draft regulations concerning the procedural rules and the technical specifications of particular types of radio services.

Art. 29. (1) The State Telecommunications Commission shall approve the type of terminal equipment and emitting radio equipment, and issue the respective certificates.

(2) The State Telecommunications Commission shall:

1. prescribe the essential requirements for electromagnetic compatibility and safety of telecommunications equipment and installations for civil use;

2. authorize persons to carry out evaluation of the compliance of the telecommunications equipment and installations for civil use with the essential requirements for electromagnetic compatibility and safety.

Art. 30. The State Telecommunications Commission is a national standardization body in the field of telecommunications and represents the Republic of Bulgaria in the international telecommunications standardization agencies - the International Telecommunications Union (ITU) and the European Telecommunications Standardization Institute (ETSI) .

Art. 31. The State Telecommunications Commission shall monitor the observance of:

1. the regulations in the field of telecommunications and the mandatory standards set out therein;

2. the pricing policy principles;

3. the quality of service;

4. the terms and conditions stipulated in the licenses.

Art. 32. (1) The State Telecommunications Commission keeps registers for:

1. granted licenses;

2. the certificates issued for type approval of terminal equipment and emitting radio equipment for civil use;

3. the emitting radio equipment, for which have been issued manufacturing, import and/or distribution permits.

(2) The registers under paragraph 1 shall be open to the public.

Art. 33. (1) STC may require from any party, involved in telecommunications activities, information necessary to perform its regulatory functions.

(2) STC, and its administrative staff, shall keep the confidentiality of the information, obtained under paragraph 1, in those cases when it is a commercial secret.

Art. 34. (1) STC settles disputes between telecommunications operators concerning interconnection of networks and/or leased lines.

(2) The party not contended may file a claim with the court.

Art. 35. STC represents the Republic of Bulgaria in the international organizations of the regulatory authorities in the field of telecommunications.

Art. 36. (1) The State Telecommunications Commission shall prepare annually, and present to the Council of Ministers, the CPT, and the National Radio and Television Council a report of its activities, which shall contain information about:

1. the development of the universal service provision and the level of customer satisfaction of this service;

2. the frequency allocation for civil use by service type, and evaluations of the effectiveness of their use;

3. the number allocations from the National numbering plan;

4. telecommunications services and activities market survey and future prospects for development;

5. competition situation in the telecommunications sector and application of the tariff policy principles.

(2) During the preparation of the report the STC may request the official opinion of the Committee for Competition Protection in relation with item (1).5.

(3) STC annual reports shall be published.

Section III

FUNDING OF THE STATE TELECOMMUNICATIONS COMMISSION

Art. 37. (1) The budget resources of STC are raised from:

1. license fees;

2. annual fees for scarce resource utilization;

3. 20% of the fines and property penalties as set out in this Law.

4. 5% of the initial license fees set out in the licenses issued as per Chapter V, Section II;

5. 30% of annual radio frequency fees set out in the licenses issued as per Chapter V, Section II;

6. accrued interest;

7. donations;

8. other revenues from STC activities.

(2) STC budget resources are used for:

1. financing of STC activities;

2. funding of projects related to market regulation and liberalization;

3. financing of the Radio and Television Fund;

4. other expenses

(3) Any STC budget resources that have not been utilized by the end of the accounting year, shall be used by STC the following year.

CHAPTER FIVE - LICENSES AND FREE REGIME

Section I

GENERAL PROVISIONS

Art. 38. Under the provisions of this Law, a license is an individual administrative act, which allows the use of the radio frequency spectrum, and the performance of telecommunications activities and radio and television activities.

Art. 39. (1) Telecommunications activities are performed on the basis of individual licenses, class licenses and a free regime of operation in accordance with the provisions of this Law. Radio and television activities shall be performed on the basis of individual licenses only.

(2) The CPT Chairman specifies, in an order, the types of telecommunications activities subject to individual licensing, class licensing and free regime of operation. The order is published in the State Gazette.

Art. 40. (1) The requirements for granting licenses shall be equal for all applicants for the same type of telecommunications network, or for the provision of the same type of telecommunications services.

(2) The issue of licenses shall be carried out under conditions of public accessibility, non-discrimination and transparency.

Art. 41. (1) There shall be no restrictions as to the number of operators who can be granted licenses, except when the resource is scarce for natural or technical reasons.

(2) In the cases of a scarce resource under par.(1) , STC shall inform the public about the reasons that necessitate the restriction.

Section II

GRANTING OF LICENSES FOR TELECOMMUNICATIONS NETWORKS ESTABLISHMENT AND FOR PROVISION OF PUBLIC TELECOMMUNICATIONS SERVICES, USING RADIO FREQUENCY SPECTRUM

Art. 42. STC, on the basis of its preliminary study of the necessity and technical feasibility, submits a proposal to the Council of Ministers for granting of licenses for the establishment of telecommunications networks and the provision of telecommunications services through the radio frequency spectrum.

Art. 43. (1) STC proposals shall contain:

1. the scope of activities, which will be performed, using the radio frequency spectrum;

2. the granting proceedings - by way of tender or auction, or none if allowed by law.

3. the amount of license fees.

(2) The proposal should be accompanied by a draft tender/auction package, a draft license, as well as a draft license for radio and TV activities, if such is necessary.

Art. 44. (1) The Council of Ministers shall have a Decision on the proposal within one month.

(2) Should the Council of Ministers accept the proposal under Art. 43(1) , CoM Decision shall specify:

1.the subject and term of license;

2. the granting proceedings - by way of tender or auction, or none if allowed by law;

3. the tender/auction package;

4. the amount of license fees;

5. the time limits for STC to conduct tender/auction.

(3) The decision under par.(2) shall be published in State Gazette and in one national daily newspaper.

Art. 45. (1) The Prime Minister shall, as per the term under Art. 44(1) , appoint an evaluation committee to conduct the tender/auction. Committee members shall come from STC, and - depending on the subject of the license - the National Radio & TV Council, and other concerned departments and organizations.

(2) The Evaluation Committee shall be chaired by the STC Chairman.

Art. 46. The tender/auction shall be organized by STC.

Art. 47. (1) The Evaluation Committee under Art. 45 par.(1) , on the basis of the tender or auction package and adopted criteria, ranks the candidates and proposes to the Council of Ministers to take a decision for selection of the party that has won the tender/auction.

(2) The tender/auction shall be organized and conducted in an order set out in Art. 65, 66, 67 and 70 in Section IV.

Art. 48. (1) The Council of Ministers shall, within one month, issue a Decision concerning the selected applicant, the reason for the choice and the obligation for STC to grant the license. The decision shall be promulgated in State Gazette.

(2) The decision under (1) may be appealed in accordance with the Law on the Supreme Administrative Court.

Art. 49. Within 14 days of taking the decision, STC shall issue the license to the party which has won the tender/auction.

Section III

INDIVIDUAL LICENSE

Art. 50. Individual licenses shall be granted to physical persons — single proprietors, and to legal persons. Individual licenses for private networks using the radio frequency spectrum shall be granted to physical persons as well.

Art. 51. Individual licenses for telecommunications activities shall be granted without tender/auction, when the resource to be used is not scarce.

Art. 52. When the resource is scarce, individual licenses shall be granted after tender/auction, unless stipulated otherwise in a law.

Art. 53. Individual licenses shall be granted without tender/auction when the resource is scarce in the following cases:

1. the number of applicants is less or equal to the available scarce resource;

2. to public telecommunications operators who need radio frequency spectrum that is not used directly for provision of public telecommunications services;

3. for establishment and operation of private networks, whereby the license is granted to the first one declaring his request in writing;

4. for establishment and operation of private networks for own use under Art. 81 par.1 whereby the license is granted to the first one declaring his request in writing;

5. for needs of the state authorities.

Art. 54. The conditions and order for issue of individual licenses without tender/auction are to be specified in regulations of the CPT.

Art. 55. (1) Individual licenses are personal.

(2) Individual licenses can be transferred to third parties only with the consent of STC, one year after their issue date.

(3) If the individual licenses granted are subject to the conditions of a tender/auction, they cannot be transferred during the first three years after their issue date except if the

licensee has declared in advance his intention to establish a company, entirely his own property, for the fulfillment of the licensed activities. On expiration of the three-year period the licenses can be transferred to third parties only with consent of STC.

Art. 56. (1) The individual license for telecommunications activities shall be granted for a term of up to 20 years. Should the parties so agree, this term can be extended, but its total duration shall not exceed 35 years. The duration of the licenses issued under Chapter V, Section II may be extended after a decision of the Council of Ministers.

(2) Upon submission of an application for a new license - after expiration of the old license term — for the same activities, the other conditions being equal, preferred shall be the party under par.(1) .

Art. 57. (1) Individual licenses for the establishment, maintenance and operation of public telecommunications networks and/or provision of public telecommunications services via these networks, shall contain some, or all, of the following conditions and requirements:

1. license scope and term of duration, territorial coverage, allocated radio frequency spectrum;

2. technical specifications to be met by the networks and equipment;

3. exclusive rights, if such have been granted, and their duration;

4. amount of license and other fees, payment terms;

5. prohibition for cross subsidizing of other telecommunications networks and services;

6. obligation to provide all users with services, under equal conditions, while guaranteeing that disabled persons and customers with special social needs shall have access to services;

7. obligation to co-ordinate with STC the General conditions and terms of relations with users;

8. quality of service standards;

9. obligations with respect to the development or expansion of the network or the provision of services, time schedule to undertake the activity;

10. obligation to guarantee reliability of the construction, maintenance, and operation of the telecommunications networks and the provision of telecommunications services in cases of Force Majeure or other states of emergency;

11. obligation to provide public telecommunications services, if necessary, for national defense and security;

12. additional obligations related to national defense and security, or in cases of disasters and accidents;

13. obligation to provide free-of-charge calls in emergencies;

14. the right to suspend or terminate service to any user for non-payment or for violation of the service agreement;

15. obligation to ensure access to the network and interconnection with other networks;

16. obligation to deposit with the CPT a sample of the encryption codes and documentation, when such means are being used;

17. obligation to introduce the essential European and international telecommunications standards in the country;

18. obligation to issue a subscribers' directory;

19. requirements to guarantee the confidentiality of communications;

20. requirements to give access, under equal terms and conditions, to other telecommunications operators to premises, ducts, rights-of-way, towers and other available facilities (equipment) , if technically and physically possible;

21. requirement to allow control of license performance;

22. provisions with respect to the amendment, extension or termination of the license;

23. provisions related to sanctions, including revocation of the license;

24. any particular restrictions or conditions with regard to the transfer of shares or of ownership by the licensee;

25. other conditions related to the individual licenses for establishment, maintenance and use of public telecommunications network.

(2) The conditions and terms of individual licenses for radio and television activities shall be defined by the National Council of Television and Radio in accordance the Radio and Television Law.

Art. 58. Individual licenses for private networks include all, or some, of the requirements under Art. 57 par.(1) .

Art. 59. Individual licenses for the same types of telecommunications networks and services shall set out identical conditions to operators, unless stipulated otherwise by this Law;

Art. 60. (1) STC may amend or extend a license by a written decision on the following grounds:

1. Force Majeure;

2. national security considerations;

3. changes in the national legislation and decisions of international organizations, approved by the Republic of Bulgaria;

4. reasons relating to the public interest;

(2) Amendments to the licenses issued as per Chapter V Section II, relating to allocated radio frequency spectrum, shall be made on the basis of a CoM decision, only for the reasons set out in par.(1) .

(3) The amendments pursuant to par.1 shall be made after written notification of the licensee.

(4) The decision under par.1 can be appealed in accordance with the Law on Administrative proceedings. The decision under par. (2) can be appealed in accordance with the Law on Supreme Administrative Court.

(5) The licensed operator may submit a written request with STC for change and amendment of the license. STC shall study how justified the request is and shall estimate the necessity for making the proposed changes and amendments.

Art. 61.(1) The license can be terminated or suspended by decision of STC on the following grounds:

1. a written proposal on the part of the licensee, which has been accepted;

2. in case of Force Majeure rendering impossible the performance of the licensed activities;

3. in exceptional circumstances as per the cases of Chapter VII.

4. if the licensed activities cause a threat to the national security or national defense;

5. in the event of death of the licensee, when a natural person. In this case the successors may, within a period of 3 months, file a claim with STC to continue performance of activities. Until decision is taken, successors may proceed to perform activities.

6. if the licensed legal person is liquidated or wound down.

(2) If the license is terminated under the provisions of par.(1) .4 the licensee is entitled to an indemnity, provided that termination is not his own fault.

Art. 62. (1) The State Telecommunications Commission, after sending a notice in writing, may order the revocation of the license in the following cases:

1. grave or systematic violation of this Law, of the regulations on its application, or of the license terms and conditions;

2. financial or technical inability of the licensee to perform activities;

3. actions of the licensee, endangering the national security or offending the public interest.

(2) Individual licenses for radio and television activities can be revoked by STC after decision of the National Radio and Television Council. Revocation is effected after sending a notice in writing setting a specific time frame.

(3) Individual licenses for telecommunications networks, issued as per Chapter V Section II, can be revoked with CoM's approval, and after sending a notice in writing setting a specific time frame.

(4) STC shall revoke licenses if the licensee has not corrected his fault within the time frame set out in the notice.

(5) In the decision to revoke the license, a period of time shall be set, for the duration of which the person shall be prohibited from applying for a new license for the same activities. This period of time cannot be less than 2 years.

(6) The decisions under par. 1 can be appealed in accordance with the provisions of the Law on Administrative Proceedings.

(7) The decisions of the Council of Ministers under par.(2) and par.(3) can be appealed in accordance with the provisions of the Law on the Supreme Administrative Court.

Section IV

GRANTING OF INDIVIDUAL LICENSES

Art. 63. (1) The procedure for the grant of individual licenses by means of a tender/auction is opened at the initiative of STC, or at the request of a concerned party.

(2) If there are requests of concerned parties, STC examines the possibilities for individual license grant and within 6 months informs the applicant about the result.

(3) If the fulfilment of the request is possible, STC shall publish within the same time period an announcement stating its intention to issue an individual license for telecommunications activities and shall set a term within which all applicants can submit their applications.

(4) If the number of applicants is less than, or equal to, the available scarce resource, STC grants licenses without tender/auction; if this number is greater, STC opens a tender/auction procedure.

Art. 64. (1) To conduct the tender/auction, the Chairman of STC shall appoint with an order an evaluation expert committee.

(2) If the subject of activities concerns the national security and defense welfare of the country, representatives of the Ministries of the Interior and Defense, and the Finance Ministry shall take part in the Evaluation Expert Committee.

(3) STC Chairman determines with an order the procedure for conducting the sessions, the mechanism for decision taking, preparation of minutes, etc.

Art. 65. (1) STC shall publish in local and national press an announcement about the tender/auction for the grant of an individual license for telecommunications activities using a scarce resource.

(2) The announcement under par.(1) shall specify the type of tender/auction, set a date, venue and time, list the necessary documents, the deadline and place to submit an

application for participation, the place, deadline and procedure for purchase of the tender/auction package, the initial auction price, the amount and way of payment of the participation deposit, and other specific requirements.

Art. 66. Depending on the activities to be licensed, tender/auction package include requirements:

1. about the rate of development and/or servicing; about quality of service; about the type of employed technology; requirements relating the country's security and defense, and others;

2. evaluation criteria.

Art. 67. (1) All applicants shall submit a written application for participation in the tender/auction and shall attach thereto:

1. a registration certificate under the Commerce Law;

2. evidence of financial capacity to perform the activities -- an annual balance sheet and income statement, annual tax statements, bank references, and others;

3. a preliminary technical project and business plan in accordance with the requirements set out in Art. 66;

4. a certificate for payment of the deposit or a bank guarantee for its amount;

5. declaration to keep the confidentiality of the information contained in the tender/auction package;

6. receipt for payment of tender/auction package;

7. other documents.

(2) All submitted documents shall be in Bulgarian language.

(3) If the auction is closed, each auction package shall include a uniform envelope where candidates may insert their bids.

(4) If the documents under par.(1) and par.(2) do not meet the requirements, candidates shall be given a 7-day period to remove any discrepancies. If the discrepancies are not removed within the period mentioned, candidates shall not be allowed to participate.

Art. 68. (1) A tender is organized in those cases when the grant of an individual license necessitates a complex evaluation. The tender may proceed with or without the attendance of the competitors.

(2) An auction is organized in those cases when the nature of the activities to be licensed may be performed by a great number of candidates and the important thing is the amount of the submitted bid. The auction may be open or closed.

Art. 69. Within two months of expiration of bidding due date, the Tender/auction Committee shall conduct the tender/auction.

Art. 70. (1) In case of a tender, bids shall be ranked on the basis of a complex valuation as to which one meets best tender conditions.

(2) In case of an auction, candidates shall be ranked on the basis of the amount of bid.

Art. 71. (1) Within 7 days of completion of the tender/auction, the Commission conducting the tender/auction shall present a report to the STC Chairman on the completed work and ranking results.

(2) On the basis of the documents under par.(1) and article 70, STC shall take a decision to grant a license to the candidate that has been ranked first.

(3) The decision under par.(2) shall order the refund of the deposits of the candidates that have not won the tender/auction.

Art. 72. (1) Tender/auction participants shall be notified in writing about the results.

(2) The decision under Art. 71(2) can be appealed under the Law on Administrative Proceedings.

Art. 73. (1) Within one month of the decision under Art. 71 (2), STC shall grant an individual license to the winner of the tender/auction.

(2) Under the individual license the winning candidate shall be bound by the proposals made in the tender/auction.

Art. 74. (1) If the approved candidate declines the individual license, this license shall be offered to the candidate ranked second.

(2) If the second ranking candidate declines the license, the procedure shall be suspended without effecting the issue of any license.

(3) The deposits of the candidates that have declined an individual license shall not be refunded.

Section V

CLASS LICENSE

Art. 75. The class license determines the conditions under which anyone willing and meeting those conditions may perform telecommunications activities. The telecommunications activities which can be performed under a class license are set out in the list in Art. 39 (2).

Art. 76. (1) Prior to the issue of a class license, STC publishes a draft for review and examines all opinions and objections.

(2) The class license comes into effect as of the date of its publication in the State Gazette, in case the license itself does not specify a date.

Art. 77. Any person willing to perform telecommunications activities under a class license can do so upon registering with STC.

Art. 78. The class license contains requirements for:

1.interconnection of the telecommunications network of the licensee with other licensed networks;

2. connection of approved terminal equipment to the telecommunications network;

3. treatment of all consumers on non-discriminatory basis with respect of their access and use of the services;

4. co-ordination with STC of the general terms of the relationships with the users of services;

5. public announcement of services tariffs;

6. providing customers with sufficient and up-to-date information about bills and tariffs of services;

7. establishing a simple procedure for settlement of disputes with customers;

8. presentation of documents, reports, declarations related to the licensee's activities;

9. compliance with technical standards or requirements, including the service level standards;

10. payment of license and other fees.

Art. 79. (1) STC may amend the terms of the class license, if this is in the interest of the public.

(2) Prior to amending the class license terms, STC shall publish an announcement in which it shall lay down its reasons for the proposed amendments, providing concerned parties with the opportunity to submit their opinions or objections.

(3) STC shall examine all opinions and objections and shall accept those deemed useful.

Art. 80. (1) STC may decide to cancel the registration of any party working under a class license, when that party is in breach of the license terms and has not stopped the breach, and removed any consequences thereupon, within 30 days of the receipt of a notice requesting that.

(2) The decision under par.(1) can be appealed under the Law on Administrative Proceedings.

Section VI

FREE REGIME

Art. 81. (1) No license shall be required for building, maintenance and operation of private telecommunications networks for own use, which have no access to public telecommunications networks and do not use radio frequency spectrum, if:

1. they are placed in a premise used by one, or jointly by more than one, person;

2. they connect several neighbouring premises, used by one, or jointly by more than one, person;

3. they are located in separate, or mechanically connected, vehicles such as trains, ships and aeroplanes;

4. they are located in premises, used by one or jointly by more than one person, which are interconnected via one, or more, lines leased from public telecommunications network operators;

(2) No license is required for using radio equipment with a little range of operation, which is not used to perform telecommunications activities. The technical requirements that such radio facilities need to meet shall be set out in a CPT regulation.

CHAPTER SIX - PUBLIC TELECOMMUNICATIONS OPERATOR

Art. 82. Public telecommunications operators are obliged to provide customers, under conditions of equal treatment, with access to the public telecommunications networks and with the opportunity to use telecommunications services under conditions which are publicly announced.

Art. 83. Licenses of public telecommunications operators, who provide universal service even under non profitable conditions, and/or perform tasks related to the governing, security and defense of the country include the requirements under Art. 57 (1) , as well as:

1. obligation to provide a universal service on a non-discriminatory basis. The universal service can be refused only if it is technically impossible to be provided;

2 obligation to collect fees for provided services, including from self, from all users under equal conditions for all;

3. the right to negotiate with other telecommunications operators for the provision of international services, as well as to settle international accounts and payments;

4. the obligation to develop the public telecommunications network in accordance with adopted timetable so that universal service provision is ensured;

5. obligations relating to the provision of local, long distance and international telecommunications services;

6. mechanisms and principles related to setting of tariffs for provided services;

7. obligations related to the implementation and use of different cost accounting systems for provision of different types of services;

8. obligations related to the implementation of cost oriented tariffs for different types of services;

9. opportunity to sign contracts with other persons for the provision of services or for fulfilment of other obligations under the license;

10. opportunity to enter agreements regulating revenue sharing with other telecommunications service providers;

11. obligation for an overall performance of the license;

12. obligation to provide information and reports concerning license performance;

13. obligation to ensure uninterrupted operation of the public telecommunications network, and provision of telecommunications services;

14. obligation to evaluate the degree of satisfaction of the users with provided universal telecommunications services;

Art. 84. (1) Public telecommunications operators shall have to establish their networks in such way as to ensure that they are accessible and allow interconnection.

(2) Public telecommunications operators shall interconnect their networks under publicly known equal conditions, including prices.

(3) STC may issue mandatory instructions regarding access and interconnection of telecommunications operators networks.

Art. 85. Public telecommunications operators cannot decline a request for interconnection if it is reasonable and necessary from a technical point of view. If it is impossible, the operator shall have to justify his refusal in writing.

Art. 86. When necessary, public telecommunications operators shall be obliged to interconnect their networks with the networks of the authorities, in charge of the security and defense of the country. Interconnection conditions shall have to be negotiated between the parties.

Art. 87. Public telecommunications operators shall be obliged to provide interconnection to their networks for the private telecommunications networks of operators in whose licenses the possibility for such connection has been provisioned.

Art. 88. (1) Public telecommunications operators shall enter interconnect agreements. Interconnect agreements set out the technical and financial terms and shall be presented in STC.

(2) STC may request that interconnect agreements be amended when there are well-founded reasons for that.

Art. 89. (1) If the telecommunications operators cannot reach an agreement on the terms and order for access to, or interconnection with, their telecommunications networks within 3 months of the request of the concerned party, then either of the parties may refer the dispute to STC.

(2) STC is obliged to give opinion under par.(1) within 3 months, as well as set out the conditions for access and interconnection.

(3) If either party is unhappy with the decision, it can refer the dispute to court, under the ordinary legal procedure, within one month.

Art. 90. Public telecommunications operators may provide leased lines under publicly announced conditions, while adhering to the principle of equality among the parties leasing the lines.

CHAPTER SEVEN - PROVISION TELECOMMUNICATIONS IN EMERGENCIES

Art. 91. The terms and order of using the telecommunications networks in emergency situations such as martial law or war, as well as in cases of natural disasters and accidents, are determined by the CPT Chairman in co-ordination with the Minister of Defense and the Head of General Staff of the Bulgarian Army.

Art. 92. (1) The telecommunications operators shall assist to ensure the telecommunications under emergency situations.

(2) Obligations, requirements and restrictions related to the country defense and security, as well as in cases of disasters and accidents, shall be set out in the licenses that are granted.

Art. 93. Upon introducing martial law, or the declaration of a state of war, the CPT Chairman may - if necessary - request STC to suspend, or terminate, the effect of granted licenses, as well as to forbid the use of radio equipment and the radio frequency spectrum for civil purposes.

Art. 94. (1) With a CoM Ordinance, BTC may be provided with telecommunications facilities with defense functions and installed war-time equipment, which are a part of the national security system. BTC shall use, upgrade and maintain them in a stand-by mode, in order to ensure operational telecommunications in emergency situations.

(2) Defense related telecommunications facilities, and the land where they are located, may be separated, liquidated, rented or used as collateral, only with an Ordinance of the Council of Ministers.

(3) The telecommunications facilities under par.(2) may be differentiated organizationally and materially in the BTC balance.

(4) Telecommunications defense related equipment and war-time facilities may be used during time of peace for civil purposes.

(5) The financial resources for building, maintenance, reconstruction and modernization of the facilities and capacities under par.(1) shall be provided by the State budget, the National Telecommunications System Fund, BTC, and other sources as may be determined by a CoM Ordinance.

CHAPTER EIGHT - TERMINAL EQUIPMENT AND ELECTROMAGNETIC COMPATIBILITY

Section I

TERMINAL EQUIPMENT

Art. 95. (1) Terminal equipment is an equipment connected directly, or indirectly, to a terminal point of the public telecommunications network to transmit, convey, process or receive information. Connection may be carried by a wire, optical fibre, or other electromagnetic media.

(2) The terminal equipment market is liberalized.

(3) Terminal equipment and appliances, when designated for domestic use, shall be manufactured, imported, advertised, stored for sale, marketed, distributed (free-of-charge or for a fee) , connected, directly or indirectly, to public telecommunications networks only if their type has been approved.

(4) Where private telecommunications networks are connected to public telecommunications networks under Art. 87, the interconnecting terminal device of the private telecommunications networks must be of a type that has been approved.

(5) The permits under Art. 28 (5) , item "b", for emitting terminal radio devices are issued after their type has been approved.

Art. 96. (1) Certificate of type approval shall be issued if testing finds out that terminal equipment meet the material requirements as set out in the harmonized standards.

(2) The CPT Chairman shall determine, with an order, the harmonized standards to be applied in the telecommunications sector. The order shall be promulgated in the State Gazette.

Art. 97. The CPT Chairman shall determine, with regulations, the terms for:

1. granting laboratory permits to perform type approval tests;

2. determining executive bodies for certification;

3. elaborating and publishing of technical specifications to be met by the devices, subject to testing;

4. connection of the devices to the public networks;

5. evaluation of compliance, and for issue of certificates.

Art. 98. (1) The CPT shall determine appropriate marks to stick on the approved devices indicating that they have been approved.

(2) The approved terminal devices must be marked.

Art. 99. Cryptographic terminal devices and equipment shall be imported, distributed and used after permission is given by the National Cipher Agency at the Ministry of the Interior.

Section II

ELECTROMAGNETIC COMPATIBILITY

Art. 100. (1) The sale and use of telecommunications equipment for civil purpose - which cause electromagnetic disturbances, or whose operation can be hampered by such disturbances -- can be carried out only if these comply with the essential requirements for electromagnetic compatibility as set out in the harmonized standards.

(2) The CPT Chairman shall determine, with an order, the harmonized standards, relating to electromagnetic compatibility, to be applied in the telecommunications sector. The order shall be published in State Gazette.

Art. 101. STC assigns the bodies responsible for certification of the electromagnetic compatibility of telecommunications equipment and devices for civil purposes and shall prescribe the procedures of evaluation of the compliance of telecommunications and radio equipment with the safety requirements.

Art. 102. The CPT Chairman regulates:

1. the categories and groups of telecommunications equipment and devices which must meet requirements for electromagnetic compatibility, as well as equipment broadcasting radio disturbances;

2. conditions for working out and publication of technical specifications for telecommunications equipment subject to compliance evaluation regarding the electromagnetic compatibility requirements;

3. conditions under which permits are issued to laboratories for electromagnetic compatibility tests of telecommunications equipment and facilities;

4. conditions for determining the certification authorities;

5. procedure for evaluation of compliance and for issue of certificates for telecommunications equipment and facilities.

CHAPTER NINE - CO-ORDINATION OF CONSTRUCTION WORKS WITH THE PUBLIC TELECOMMUNICATIONS OPERATORS

Art. 103. While constructing new buildings all investors shall be obliged to envisage in their projects and ensure the building of cable ducts, providing access to telecommunications and cable television networks.

Art. 104. (1) All telecommunications operators shall co-ordinate in advance with the local municipality a project for construction on its territory of telecommunications networks and installations.

(2) The telecommunications operators shall submit to municipalities the plans of the telecommunications networks and installations to be constructed in order to have them included into the general construction plan.

Art. 105. (1) Any person undertaking building works shall co-ordinate in advance with the Municipality the availability and layout of the telecommunications networks and

installations on the site of the works and specify with the operators to whom they belong the way of their preservation.

(2) The procedure under par.(1) shall not apply for emergency works removing the consequences of natural disasters and failures. In such cases the person undertaking the works shall forthwith notify the corresponding operators who in their turn shall give instructions about the protection of their networks and installations.

(3) In the case where any forthcoming works involve relocation of public telecommunications networks or installations, the persons under par.(1) , after co-ordination with the telecommunications operators, shall undertake the relocation, at their own expense, prior to commencing activities.

Art. 106. (1) Whenever a person on whose property telecommunications networks or installations have been built wishes to undertake reconstruction or new building works, he shall notify in writing the telecommunications operator if the planned works involve equipment removal. The telecommunications operator shall carry out the removal at his own expense on terms agreed upon with the person.

(2) If a dispute arises related to the removal, the owner may refer the problem to STC. STC determines a period of time during which the operator is to carry out the removal of the line or installation concerned.

CHAPTER TEN - RIGHT TO USE PRIVATE PREMISES FOR TELECOMMUNICATIONS NEEDS

Art. 107. (1) The public telecommunications operators shall contract with the owners of private estate property the terms of using the property and the air space above it in order to build or maintain, at their own expense, telecommunications installations.

(2) The public telecommunications operators shall indemnify the owner for any damage caused on his estate in relation with the works carried out by the operators.

(3) In case the parties do not reach an agreement under par.(1) and par.(2) , the dispute may be taken to court.

Art. 108. (1) The public telecommunications operators are entitled to use, free of charge, tunnels, bridges, roads etc. for the purpose of building of over-head and underground telecommunications networks after having notified in advance the authorities who manage them or the persons who use them. The operators shall ensure the technical safety and take measures not to cause any damages.

(2) The order in which the activities under par.(1) shall be carried out by the public telecommunications operators shall be set out in a CPT regulation.

Art. 109. The municipalities and mayor quarters provide in the order defined, based on a contract, ground for construction of buildings for establishment of the national telecommunications network.

CHAPTER ELEVEN - TARIFFS AND CHARGES

Section I

TELECOMMUNICATIONS TARIFFS

Art. 110. Telecommunications operators shall set out tariffs for the services provided by them, in accordance with the provisions of this Law, unless stipulated otherwise in a special law.

Art. 111. (1) The tariffs for telecommunications services, except those regulated by STC, shall be determined by the telecommunications operators in accordance with their supply and demand on the domestic market. The tariffs shall be published in a daily newspaper.

(2) In determining the tariffs, telecommunications operators shall ensure that users are treated equally.

(3) Prior to their publication, tariffs for telecommunications services shall be forwarded to STC for information's sake.

Art. 112. (1) STC shall regulate the tariffs for services, provided by operators that have an established dominant position on the market in the sense of the Competition Protection Law.

(2) STC shall submit tariffs information to the National Commission for Commerce.

Art. 113. (1) The tariffs under Art. 112 shall be determined by the telecommunications operators in accordance with the following principles:

1.equal treatment of all customers;

2.compliance with the cost of service provision;

3.the pursuit of economically sensible profit;

4.prohibition of cross-subsidizing of services, provided under competitive terms;

5. compliance with the international market tariffs to the extent allowed by domestic conditions;

6. facilitation of investments in the field of telecommunications.

(2) Operators shall submit services tariffs to STC, for co-ordination, one month prior to their publication along with the pricing documentation.

(3) If tariffs do not comply with the principles under par.(1) , STC shall oblige operators to re-calculate prices in accordance with the aforementioned principles, or else apply any form of tariff control in pursuance of Art. 114.

Art. 114. (1) STC shall also control tariffs for telecommunications services that have been proven to have been provided under conditions of dominant status, or under

conditions of unfair competition, in the sense referred to in the Competition Protection Law.

(2) STC, after co-ordination with the Competition Protection Commission, may regulate in one of the following ways:

1.setting price cap regulation;

2. defining pricing rules and principles;

3. setting fixed prices for a term of 6 months to one year.

Art. 115. Universal service tariffs shall be determined on the grounds of a methodology elaborated by STC and approved by the Council of Ministers or some other body authorized by CoM. Methodology specific parameters shall be worked out by STC and approved by the CPT Chairman.

Section II

LICENSE FEES AND OTHER CHARGES

Art. 116. (1) All licensed operators shall pay the license fees set out by the license terms.

(2) The licensed state authorities under Art. 53(5) shall not pay license fees.

(3) The license fees are:

1. initial fee - upon the issue of the license, including the license preparation expenses;

2. annual fee - for monitoring of license performance; The annual fee is a percentage of the annual income, VAT not included.

Art. 117. All licensed operators shall pay annual fees to use scarce resource from:

1. the radio frequency spectrum;

2. the National numbering plan.

Art. 118. Determination of the amount of the license fees and other charges is regulated with an Ordinance of the Minister of Finance based on a proposal of STC.

Art. 119. The license fees revenue collected from the licenses issued as per Chapter V Section II shall be distributed as follows:

1. Initial fee :

a) 5% for NCS Fund;

b) 5% for STC budget;

c) 90% for the state budget

2 . Annual fee - to STC budget.

3. Radio frequency fee:

a) 20% for NCS Fund;

b) 30% for STC budget;

c) 50% for the state budget.

Art. 120. (1) License fees, as well as radio frequency spectrum fees, set out in the licenses for telecommunications activity shall be paid to the STC budget.

(2) STC shall transfer 50% of fees revenue to the state budget.

(3) STC shall transfer to the Radio & TV Fund annually:

1. 80% of the revenue from initial license fees for radio and TV activities;

2. 50% of the revenue from annual license fees for radio and TV activities.

CHAPTER TWELVE - CONTROL

Art. 121. (1) The control over telecommunications activities and sanctions for breach of licenses, granted for telecommunications activities shall be exercised by STC. Sanctions for breach of licenses, granted for radio and television activities, shall be exercised by the STC following a decision of the National Radio and Television Council.

(2) The interaction between STC, the Ministries of the Interior, Ministry of Defense, Ministry of Finance, and the Ministry of Transportation with respect to supervision of the telecommunications shall be regulated with an instruction, issued jointly by the four ministries.

Art. 122. The Chairman of STC shall authorize, with an order, STC officials who shall carry out inspections and prepare offense statements.

Art. 123. (1) The Chairman of STC or any other person, explicitly authorized by him, may issue orders by virtue of which the carrying out of telecommunications activities done in violation of primary and secondary legislation, and the license terms may be suspended until the offense is eliminated . DD>(2) The orders may be appealed in accordance with the provisions of the Law on Administrative Proceedings.

Art. 124. (1) In the case when an administrative penalty can be imposed, the authorized officials under Art. 122 draws up an offense statement in accordance with the procedure of the Administrative Offenses and Penalties Law. DD>(2) On the grounds of these statements of offense, the Chairman of STC, or an official authorized by him, shall impose penalties. DD>(3) Penalties may be appealed under the Administrative Offenses and Penalties Act.

Art. 125. Upon establishing offenses pursuant to Art. 124 (1) the authorized officials may seize and retain material evidence relating to the establishment of offense according to Art. 41 of the Administrative Offenses and Penalties Law.

Art. 126. While performing their obligations, authorized STC officials are entitled to:

1. free access to the locations subject to supervision;

2.check the documents proving eligibility of the persons in the locations subject to supervision;

3.require information, evidence and documents associated with the exercising of the control monitoring;

4. monitor the quality parameters of services;

5. carry out the necessary inspections to find out the quality parameters of the services.

CHAPTER THIRTEEN - ADMINISTRATIVE PENAL PROVISIONS

Art. 127. (1) Whoever carries out telecommunications activities, subject to licensing, without having been granted the necessary license, or after expiration or revocation of the license, shall be liable to a fine from BGL 10,000,000 to 50,000,000.

(2) Whoever carries out telecommunications activities without registration, under a regime of a class license, shall be liable to a fine from BGL 500,000 to 1,000,000.

Art. 128. (1) Whoever breaks the conditions of the individual license granted to him shall be liable to a fine from BGL 1,000,000 to 5,000,000.

(2) Whoever operates under a class license, and breaks its terms, is liable to a fine from BGL 500,000 to 2,000,000.

Art. 129. Whoever provides leased lines to other operators for money, in breach of & 11 of the Transitional and Final Provisions, is liable to a fine of BGL 1,000,000 to 5,000,000.

Art. 130. Whoever breaks the confidentiality of the telecommunications, conveyed over the telecommunications networks, if the deed does not constitute a crime, is liable to a fine from BGL 500,000 to 5,000,000.

Art. 131. Whoever provides lines for connection of non-licensed networks, subject to licensing under this Law, shall be liable to a fine of BGL 2,000,000 to 10,000,000.

Art. 132. Whoever interferes in and/or alters the contents of a communication of a third party shall be liable to a fine from BGL 200,000 to 2,000,000.

Art. 133. (1) Whoever makes use of a public telecommunications network for passing threatening, disturbing or abusive communications or calls shall be liable to a fine from BGL 200,000 to 1,000,000 .

(2) Whoever transmits via a public telecommunications network false or misleading calls for help, accident, or alarm, if the deed does not constitute a crime, shall be liable to a fine from BGL 1,000 000 to 5,000,000.

Art. 134. Whoever makes use of telecommunications installations for his own profit at the expense of a telecommunications operator, or of a third party (traffic theft) , if this does not constitute a crime, is liable to a fine from BGL 3,000,000 to 10,000, 000,

whereupon any damage incurred shall be indemnified according to the general court claim procedure.

Art. 135. Whoever manufactures, imports and distributes without due authorization radio equipment for civil purposes which, when in operation, engages part of the radio frequency spectrum, shall be liable, if the deed does not constitute a crime, to a fine from BGL 3,000,000 to 15,000,000.

Art. 136. Whoever causes damage or failure of public telecommunications networks or installations, whereby he cancels or obstructs the telecommunications, shall be liable, if the deed does not constitute a crime, to a fine from BGL 500,000 to 5,000,000, whereupon the damage shall be indemnified according to the general court claim procedure.

Art. 137. Whoever manufactures, imports, distributes and/or makes use of a terminal device and radio installation, designated for a direct or indirect interconnection to a public telecommunications network in the country, where its type has not been approved following the established procedure, shall be liable to a fine from BGL 1,000,000 to 5,000,000.

Art. 138. (1) Whoever manufactures, imports and/or distributes approved, but unmarked terminal devices or radio installations, shall be liable, if the deed does not constitute a crime, to a fine from BGL 500,000 to 3,000,000.

(2) Whoever fraudulently attaches an approval mark at a terminal device or a radio installation, shall be liable, if the deed does not constitute a crime, to a fine from BGL 500,000 to 5,000,000.

Art. 139. (1) Whoever manufactures, distributes, imports or uses for civil purposes radio equipment causing radio interference in violation of the regulations for electromagnetic compatibility, shall be liable to a fine from BGL 1,000,000 to 5,000, 000.

(2) The Chairman of STC may terminate, with an order, the operation or management of the equipment under par.(1) until faults have been removed,

Art. 140. Whoever manufactures, imports, distributes or uses for civil purposes telecommunications equipment causing radio interference without electromagnetic compatibility certificate shall be liable to a fine from BGL 1,000,000 to 5,000,000.

Art. 141. (1) Whoever, upon a request by STC, does not provide the required information, or provides false, or inaccurate information, shall be liable to a fine from BGL 1,000,000 to 5,000,000.

(2) Whoever obstructs the implementation of the control during or in relation to the performance of the functions of STC under Art. 126 shall be liable to a fine from BGL 1,000,000 to 5,000,000.

Art. 142. For the offenses under Art. 127, 128, 129, 131, 135, 136, 137, 138, 139 (1) , 140, 141(2) committed by legal persons, property sanctions shall be imposed to the amount of the fines envisaged.

Art. 143. (1) When the offenses under the foregoing articles have been repeated, the fine or property sanction imposed shall be twice the amount of that imposed for the first offense.

(2) In the context of this Law, an offense shall be deemed to have been repeated if committed within one year of the date of imposing a penalty for the same type of offense.

Art. 144. Twenty per cent of the fines collected and property sanctions enforced under the provisions of this Chapter, shall be credited to the budget of STC.

ADDITIONAL PROVISIONS

& 1. In the context of this Law:

1.Telecommunications network is a combination of interconnected nodes, lines and equipment serving to carry out telecommunications.

2. Public telecommunications network is a telecommunications network intended to provide public telecommunications services.

3.Private telecommunications network means a telecommunications network for private needs or for providing telecommunications services to closed user groups.

4.Limited resource is the resource, scarce by nature or for technical reasons.

5. Fixed telephone network is a public switchable telecommunications network intended to convey sound information in the frequency band 300-3400 Hz between fixed terminal points of the network for implementing of:

a) ordinary telephone service;

b) fax messages;

c) low speed data transmission via modem. The access to a terminal point of the network, designated for the customer, is through number(s) of the National numbering plan. The cable television systems are not a part from the fixed telephone network.

6. Terminal point of the network is a physical point at which the customer gets access to the public telecommunications network. The location of the terminal point is determined by the State Telecommunications Commission and constitutes the borderline of the public telecommunications network for the purposes of regulation.

7. Interconnection means physical or logical connection of telecommunications networks so that the customers connected to any of these networks get access to customers, connected to other networks or to services, provided via these other networks.

8. Leased lines are telecommunications facilities which ensure transmission of telecommunications between separate or terminal points of the network without the possibility of re-routing.

9. Telecommunications service means carrying out of telecommunications in commercial way.

10. Public telecommunications services are telecommunications services, designed for general access.

11. Ordinary telephony service means connection of subscribers through the fixed telephone network. The information services and other auxiliary services which are provided by means of the network, built for ordinary services, are not considered as such.

12. Radio and television activities is preparation and creation of radio and television programmes and of additional information to be transmitted via telecommunications networks.

13.Telecommunications operator is any person who carries out telecommunications on the basis of a license, registration or free regime.

14. Public telecommunication operator is any person who, on the basis of a license builds, operates and maintains a public telecommunications network and/or provides public telecommunications services.

15. Private telecommunications operator is any person to whom a license is issued for building, operation and maintenance of a private telecommunications network.

16. Electromagnetic compatibility is the aptitude of a device or an installation to operate at a determined quality level in a working electromagnetic environment without producing inadmissible electromagnetic interference with other devices, operating in the same electromagnetic environment.

17. Radio frequency spectrum encompasses the radio frequencies from 3 kHz to 3000 GHz.

18. Radio installations are the emitting, emitting/receiving, or receiving devices serving the purposes of the radio, or receivers used to get broadcast programs, including the antennas necessary for their functioning.

19. License is a permit in the context of Art. 18 par.5 of the Constitution of the Republic of Bulgaria.

20. Cryptographic protection are the ways and means designated to cover (encode) the exchanged information in such way that it remains coherent only for the authorized persons.

21. Telecommunications for maritime and air search and rescuing and safety information are all telecommunications defined as such in the radio rules of the International Telecommunications Union (ITU).

22. Provision of telecommunications services for maritime and air search and rescuing and safety information is not considered a public service.

TRANSITIONAL AND FINAL PROVISIONS

& 2.The Telecommunications Law (promulgated in the State Gazette issue 27 of 1975, amended issues 63 of 1976, 36 of 1979.36 of 1986, 12 of 1988 and 77 of 1966) is hereby repealed in its part regulating the telecommunications.

& 3. Article 4 par.1 item 4 and Art. 5 par.3 of the Concessions Act (promulgated in the State Gazette issue 92 of 1995, issue 16 of 1996 - Decision N0 2 of the Constitutional Court 1996,amended issue 44 of 1966, issues 61 and 123 of 1997) are amended as follows:

1. In Art. 4 par.1 item 5 of the Concessions Law the words "è äàëåêîñúîáùèòåëíè" , meaning "and telecommunicative", shall be cancelled.

2. In Art. 5 item 4 is revoked.

& 4. In & 6(a) of the Transitional and Final Provisions of the State Property Law after the words "ñóâåðåííè ïðàâà", meaning "sovereign rights", a comma shall be inserted along with the text "îñâåí àêî ñúñ çàêîí íå å óñòàíîâåíî äðóãî", meaning "unless established otherwise by law" .

& 5. In & 10 (1) of the Transitional and Final Provisions of the Municipal Property Law the words "âêëþ÷èòåëíî è òåçè, êîèòî ñà â êàïèòàëà, óñòàíîâåíè ôîíä èëè ñå âîäÿò ïî áàëàíñà íà òúðãîâñêî äðóæåñòâî, ôèðìà èëè ïðåäïðèÿòèå ñ äúðæàâåí èìóùåñòâî", meaning "including those which are included in the capital, the stock fund or are registered in the balance of a company, a firm or an enterprise with state property", shall be deleted.

& 6. Art. 8 of the Law on Value-Added Tax (published in the State Gazette, issue 90/1993, modified issue 57/1995, issue 16, 56, 104/1996, issue 51, 86, 111/1997, issue 15, 71/1998) shall include Par. 8 and 9 as follows:

"(8) providing services for acceptance and delivery of parcels, payment order and postal checks, for which there are state-defined prices as per Art. 10 of the Law on prices in benefit of persons- foreign operators situated outside the country;

(9) providing telecommunications services for which there are state-defined prices as per Art. 10 of the Law on prices in benefit of persons- foreign operators situated outside the country."

& 7. This law shall not apply with respect to the building up, use, maintenance and monitoring of telecommunications networks and radio communications for the particular needs of the Ministry of Defense, the Ministry of the Interior, the National Security Agency and the National Intelligence Service, as well as with respect to the internal allocation of the frequencies and laying down of call signs for their official radio communications. They may use the public telecommunications networks and services in accordance with the provisions of this law.

& 8. (1) Until 31 December 1998 the CPT shall be financed by the National Telecommunication System Fund.

(2) The Council of Ministers shall, within 1 month of coming into effect of the Telecommunications Law, set up the State Telecommunications Commission (STC) . Until 31 December 1998 STC shall be financed by the National Telecommunications System Fund with the CPT. STC revenue from activities during that period shall go to the NCS Fund.

(3) the transitional residual amount in NCS Fund with the CPT as of 1 January 1999 shall be distributed as follows:

a) 25% go to the national Telecommunications Fund;

b) 75% go to STC;

(4) the NCS Fund shall be accorded with Chapter III of the Telecommunications Law as of 1 January 1999.

& 9.The Council of Ministers shall within one month of the coming into effect of the Law constitute the National Radio Frequency Council, whereas till then the Interdepartmental Radio Frequency Commission shall perform the functions related to the distribution of radio frequency spectrum.

& 10. (1) On the basis of Art. 18,par.4 of the Constitution of the Republic of Bulgaria, the state shall establish State monopoly:

a) to provide an ordinary telephony service (local, long distance, transit and international) between terminal points of the fixed telephony network till 31 December 2002.

b) to provide leased lines under publicly announced conditions until 31 December 2002.

(2) The state shall allow the performance of the activities under par.(1) with a license issued to BTC by STC, on the basis of a CoM decision.

(3) Tariffs of services under par.(1) shall be determined with an accordance with the methodology developed by STC and adopted by CoM. The specific methodology parameters shall be developed by STC and approved by the CPT Chairman.

& 11.(1) Each person may request to lease lines without the right to re-lease them.

(2) Public telecommunications operators are obliged to establish their networks using leased lines.

(3) BTC refusal to provide leased lines may be appealed before STC. The dispute shall be resolved within one month, and if additional investigations are necessitated - within three months

(4) When BTC is unable to provide leased lines, and the requesting party is a licensed public telecom operator, then he may ask STC to allow him to construct own lines. When those lines use free radio frequency spectrum, the necessary license for that shall be issued without tender/auction.

(5) For the needs of governing, defense and security of the country BTC shall provide leased lines to the related departments with priority.

& 12 The provision under Art. 90 shall be applied after 31 December 2002;

& 13 (1) BTC shall continue to use the radio frequency spectrum and to perform the activities set out in the License issued by the CPT, before the enactment of the new Telecommunications Law.

(2) Within six months of the passage of the new Telecommunications Law, STC shall issue a license to BTC, which shall contain the activities included in the current license. The necessary radio frequency spectrum for performance of activities shall be allocated with the new license issue, on the basis of a CoM decision. BTC license shall be granted without tender/auction.

& 14. (1) The persons who, on the basis of licenses issued prior to the coming into effect of the Telecommunications Law, have lawfully acquired the rights to carry out telecommunications activities, shall submit within 3 months applications for bringing their licenses in conformity with the Law. Applications should enclose endorsed papers verifying their identity or their court registration.

(2) Within 15 months STC shall grant those persons licenses for telecommunications activities, licenses as per Chapter V Section II, as well as radio and TV activities licenses for a term equal to the one remaining from their previous licenses, but for no less than 2 years as from the issue date.

(3) In the way, and within the time frame, under par.(1) licenses are issued to the persons, whose previous licenses have expired. Submitting applications according to the Concessions Law shall bring their new licenses in conformity with that law. Licenses shall be granted for a period of 2 years as of the grant date.

(4) Persons who perform telecommunications activities on the basis of licenses that have been issued after the enactment of the Concessions Law, may apply for a license as per the general procedures within the time frames set out in par.(1). If no license is issued within three months, then the persons shall terminate their activities.

& 15. The persons who carry out telecommunications activities in violence of the licenses issued to them are obliged within the 3 month period for submitting the application under & 14 par.(1) to eliminate the violation of the license conditions. If this does not take place STC shall not issue the requested license, and the persons shall terminate their activities.

$ 16. (1) The persons who at the date of coming into effect of this Law carry out telecommunications activities without a license shall have 6 months to take the necessary measures to be issued a license in accordance with this Law. If the persons do not take the necessary measures, they will terminate their activities.

(2) The persons who at the date of coming into effect of this Law have filed applications for new licenses for telecommunications activities, shall have six months to confirm their application and to render their documentation in compliance with the provisions of this Law. Confirmed applications shall retain the initial number with which they have been submitted.

(3) Persons who have filed applications for a license, but are performing telecommunications activities without having been granted a license, shall, too, have to conform their applications with the law. The confirmed applications shall keep their initial incoming number.

(4) The persons under par.(1) shall be fined (one-off) , or imposed a property sanction, with a fine in an amount from BGL 1,000,000 to 10,000,000. The amount of the fine, or sanction, shall depend on the type, size and duration of the telecommunications activities that have been performed.

(5) The persons under par.(3) shall be fined (one-off) , or imposed a property sanction in an amount from BGL 500,000 to 1,000,000.

& 17. STC members shall be appointed as follows: one member for a term of seven years, two for a term of five years, two for a term of two years. Unfulfilled terms shall not count when applying the limitation for only two consecutive terms.

This law was approved by the XXXVIIIth National Assembly on July 27, 1998 and it stamped with the official seal of the National Assembly of the Republic of Bulgaria.

Chairman of the National Assembly:

Yordan Sokolov

ANNEX C: NATIONAL STRATEGY FOR HIGH TECHNOLOGIES DEVELOPMENT IN BULGARIA

HIGH TECHNOLOGIES IN MODERN ECONOMY AND SOCIAL DEVELOPMENT

The development of science and high technologies (HT), which open up new horizons for the production of competitive products and services, determines to a high degree the economy of the advanced countries on the threshold of the 21st century. According to international standards the high tech products and services are products in which the cost for scientific work and research and development represents more than 8.5 % of the total turnover in the respective sector. According to the Organization for Economic Cooperation and Development (OECD) classification high tech production is the production of air-space equipment, computers and office equipment, radio, TV and communication equipment, pharmaceutics. Telecommunication, computer and information services, financial services and services related to applied scientific work research and development are also high technologies. On the other hand medium high technologies are the production of equipment for scientific research, electrical, chemical industry and transport industries.

High tech industries occupy an ever-growing share in the world gross product and international trade. In the middle of the 1990ies high tech products represented 12.7% of the total export of the European Union, 24% of the one of the USA and 25.3 % of that of Japan, showing an increase of 55%, 38% and 63% respectively. In the last four years, 30% of the US economic growth has come from the IT sector, the wages in the sector being 64% more than the average. On company level the companies, which introduce innovations actively are the ones to utilize their resources efficiently, achieve high competitiveness and impose new products on the market, thus quickly expanding their market presence. It is expected that about the year 2010 the better part the 10 most powerful international companies will be working in the area of high technologies. Some of them may not be well known today or may not even exist. In order to achieve a leading position in the high tech sector companies are investing more and more in development and implementation. The funds invested by the 300 biggest companies in the world in 1997 reach a total of 216 billion US dollars, showing an increase of over 10% every year.

In all advanced countries these efforts are actively supported by the state. In most cases there are long-term programs for the development of high tech sectors, for research and development, education, for funding, export promotion, standardization, legal framework and taxation. All these efforts result from the favorable impact of high tech companies on the economy of these countries. High technologies often have a chain effect on social and cultural life, impossible to measure in tangible assets, yet improving the quality of life and the country's prospects as a whole.

High tech products and services allow the economies that support them to enhance their competitiveness on the international market and to keep a steady high increase of the

export, especially of goods and services of comparatively high international prices. On national level, the development of such products and services leads to cost reduction of materials and energy per unit of GDP and promotes the share of the environmentally friendly products. The example of countries like Israel, Taiwan, Ireland, Singapore and others suggests that turning to HT industries leads to stable economic growth and improves considerably the living standards in these countries creating good conditions for improving the academic and cultural standards of the working force. The internal political stability and the international influence of such countries increase.

The dynamic development and the importance of modern HT for economic growth and development force our country to face the dilemma: whether to be a generator of new ideas, products and services and effective implementation of high technologies or to remain a consumer of completed high tech products, imported from outside and produced with high consumption level of materials and labor and non environmental products. The successful solution of this dilemma will determine Bulgaria's place in the 21st century European and world economy.

CONDITIONS FOR THE DEVELOPMENT OF HIGH TECHNOLOGIES IN BULGARIA

Under the ex Council for Mutual Economic Assistance (CMEA) Bulgaria specialized in high technologies. The disintegration of this market served as a major catalyst for the negative processes in the sector. It broke the links between research, innovations, applied scientific projects and implementation, characteristic for a centrally planned economy, offering no other mechanisms for their market adjustment. As a result the technical facilities for research and development became outdated, a considerable part of the skilled labor lost their qualifications, got employed in other sectors or emigrated, and our young experts were left with no prospects for professional development.

Today we need new mechanisms for the transfer of research studies and ideas into technological products with real market value and competitiveness. The way from the laboratory prototype and the equipment for its manufacture to its pilot production and after that – its marketing is a long process in which financing, risk and organizational management are some key elements.

Some of the major components of this cycle are in existence in Bulgaria: science, technologies, transfer, production, and marketing. There are, however, a number of tendencies and factors, which had and still have **negative** impact:

- The general state of the economy in the 1990-ies and the economic slump.
- The lowered production which limits the demand for HT in the country. The poor financial state of the enterprises does not allow a timely upgrading of the production facilities and leads to their practical de-capitalization.
- The loss of the markets within the CEE countries. Most of our products did not survive the competition after the liberalization.
- The stop of Government subsidies for the development of high tech industry.
- The low level of foreign investment in the country.

The conditions in the past 10 years were not favorable for the development of science and applied academic research. In 1998 science and research represented only 0.16% of the GDP which is a lot less than in countries with comparable population, geographical position and traditions (Hungary, Portugal, Finland, the Czech Republic, Israel). The following negative tendencies were observed:

- Science and technology (S&T) show a decline in terms of costs for science and technologies in the GDP.
- Costs for research and development (R&D) on enterprise level do not respond to the market demands and show rapid decline (over 10 times for the 1989-1998 period).
- Costs for science work and research and development in the defense industry have decreased considerably.
- Universities are not involved enough in research and implementation.
- The ratio between fundamental and applied research is entirely in favor of the former as the poor market demand has badly affected the latter.
- The structure of costs for S&T and R&D does not stimulate HT research: 57% of the total costs goes for wages, 38.1% – for operational expenses, and only 4.9% – for capital investments, including equipment renovation.
- The number of Bulgarian patents registered in the country and abroad show a decline.

Does all this imply that the ambitions of Bulgaria to develop a high tech industry and services have been only the result of the artificial conditions of its centrally planned economy and the CMEA-regulated international trade? Are we capable today of a new effort based on a free market economy?

We believe that we can give a positive answer to the above question. Which are the **favorable** factors stimulating the HT development in the country at present?

- Most of all there is a **considerable academic potential** both in the area of fundamental sciences (mathematics, physics, and chemistry) and applied academic research (microelectronics, computer systems, software, telecommunications and pharmaceutics).
- **The educational system** is recognized as **good** and it allows for the training of experts who can meet international standards.
- There are **laboratory facilities** with production capacities and development institutes (for example in microelectronics, electrical technologies, the firearms industry, etc.). We should also note the capacities of the Bulgarian Academy of Science and the Universities, which host part of the academic potential of some institutes and R&D centers (metallography, computer systems and software, new materials, chemical sources, etc.).
- There are production facilities. In the end of the 1980ies Bulgaria had large-scale production facilities that generated considerable production in the HT area, mostly intended for export to the CMEA countries. These facilities were mostly concentrated in the large computer companies, electronics and microelectronics, the chemical industry, the military industry and also the experimental production of some universities, institutional development centers and institutes of the

Bulgarian Academy of Sciences. The opening of the CMEA market and the termination of the system for guaranteed planned deliveries left Bulgaria in the conditions of a free competition and Bulgarian high tech industry quickly lost its traditional markets. Along with the reduction or disappearance of certain industries the potential for investment in scientific works, research and development and upgrading the production capacities was lost. These interrelated processes, which developed for nearly a decade, and in the absence of a clear government policy for investment resources and resource allocation, led to outdating, depreciation and outright plunder of the available production facilities and finally resulted in the absence of any interest for potential investment. Despite of this negative development, however, it should be noted that there are also feasible production capacities in certain sectors as pharmaceutics, micro-electronics, electronics (basic technologies and cash machines), metallography, military industry, laser technologies, biological technologies, etc.

- As a result of the initiative of some specialists from HT enterprises and institutes a number of **small private enterprises** appeared for assembling, production and distribution of software products, companies fulfilling orders for research and development in the area of microelectronics, pharmaceutics, etc.
- Our country also has a positive experience with some useful and promising forms supporting the development of HT.

The existing funds – the National Scientific Research Fund, the Structural and Technological Policies Fund, etc. - help promote innovation. However, with their size and without any close connection to other components of the Government industrial policy, without risk investment and any significant funding in infrastructure development that is absolutely necessary for such activities, no serious results in the HT area can be expected. Still, there is some experience in the attraction of risk investment from international sources or in joint international projects (for example from the type of Silway Semiconductors, GUKIS, Mobicom, Rila Software, etc.).

The above and some other companies made investments that allowed increasing the productivity of labor, to expand the area of application and improve the quality of production. In some cases 95% of the production is exported to the Western markets. There are also long-term contracts with companies from the car industry (Daimler-Chrysler, Volvo, Renault), the telecommunications industry (Siemens, Ericson, Nortel, Lucent Technology), household appliances (Moulinex, Info), military electronics, etc.

Bulgaria has the capacity to continue developing high tech industries and services. It needs clear strategy, flexible incentive mechanisms, and awareness of the complexity of the task and consistency in the problem-solving methods.

GOAL OF THE STRATEGY FOR HIGH TECHNOLOGIES DEVELOPMENT IN BULGARIA

The major goal of the Government in the area of economic policy is to achieve high non-inflationary growth, to develop competitive, market and export oriented economy, that constitutes the foundation for the country's prosperity, to increase the living standards of

the population, and to gradually reach the economic and cultural level of the other European countries.

Following this, the present Strategy aims at overcoming the negative tendencies in the development of high tech industries in the country by the introduction of modern sector industrial policy in compliance with the *2001 Program* of the Government.

The goal of the Strategy for High Technologies Development in Bulgaria is to establish a dynamically developing economic sector for high technology activities. These are the activities, creating competitive products and services, with a great deal of intellectual. In this sense, the Strategy deals with the high tech products and services themselves, not with the much broader matter of their spill over effect on the rest of the economy.

The economic and social effectiveness in the development of high technologies helps create conditions and mechanisms for accelerated transformation of the skills and knowledge acquired in the country and abroad, into a permanent competitive product on home and external markets. As a result of this we will achieve full utilization of the existing scientific, educational and human potential which is the focus of years of investments and accumulation and which at this moment has no market fulfillment. This will increase the productivity of labor and the production output and will stimulate economic growth. Many significant economic indicators will improve, such as material and energy consumption, environmental indicators, etc. The salaries of a large group of skilled specialists will increase together with their social status and self-confidence.

In political and international terms the development of high technologies in Bulgaria will increase its international prestige and will make it an attractive partner for international economic, political and military cooperation.

PRIORITIES IN THE DEVELOPMENT OF HIGH TECHNOLOGIES IN THE COUNTRY

Because of its limited resources and narrow market, Bulgarian economy, like many other economies with similar territorial and demographic profile, cannot secure HT development in all modern directions.

The identification of national priorities in this area is based on several **criteria:**

- availability of national resources for competitive development: financial (private and public), material, human (qualification and skills), intellectual property;
- conditions and potential for market realization in the country and abroad;
- strategic importance for the country's development;
- contribution to the competitiveness of companies in the economy as a whole (whether the technologies are basic, key, developing or newly emerging);
- possibilities for impact on the overall enhancement of the technological level of a group of branches or the economy as a whole (the information and communication technologies);

- possibilities for developing high technologies by changing the organizational structures (change of ownership, attraction of foreign investment, establishment of small and medium enterprises).

In view of the options for a branch structure of Bulgaria's economy, there is a possibility to focus as much as possible on the HT as a basic future branch model for our country. This is determined by the existence of good preconditions for developing high tech industries in Bulgaria, the need to achieve high growth in the forthcoming years that should be maintained for a period of time, the lack of other important natural resources for the development of efficient material- and energy-consumption productions, the need to preserve the environment, etc.

Based on the above criteria we expect the major efforts to be focused on promoting high and medium high technologies in the following areas:

- computer systems and software (information technologies);
- telecommunications, communication equipment and services;
- micro electronics, micro mechanics and micro systems;
- manufacturing and use of new materials and components;
- power supply, electrical industry, energy efficiency and renewable energy sources;
- biotechnology and pharmaceutics;
- automation systems and robotics;
- electronics, instrument-building, medical equipment, and equipment for scientific research;
- medicine, improving the quality of life;
- new substances and chemical technologies;
- new sorts of plants, breeds of animals genetically modified products;
- preservation and pollution control of the environment, sustainable development;
- management technologies.

These areas are should be considered as a starting point for deeper analysis to be undertaken in each of them, in order to assess the existing opportunities and formulate the specific measures to support their development. This analysis will serve as grounds for acceptance of specific programs to develop the most promising of them.

In addition, these areas should not be perceived as defined once and for all. In the contemporary world it is very difficult to fill in a HT niche even when there are adequate and relatively developed facilities including tradition, expertise, home technologies, knowledge of markets and partners, social attitudes and possibilities for high added value in the production of goods and services based on new knowledge.

The Government will also encourage any other technological activities, in which scientific knowledge and skills are transformed into competitive market results, products or services. The development of the priority HT industries and services will lead to innovations and will increase the productivity in the lower technology sectors in which

Bulgaria has a good place on the international market like agriculture, food and textile industry.

GOVERNMENT ROLE IN HIGH TECHNOLOGIES DEVELOPMENT

The role of the Government in respect to the development of high technologies is usually directed towards improving the general conditions, improving the scientific and engineering (technological) basis, establishing the necessary transfer conditions, enhancing the factors, which stimulate innovations in companies.

The role of the Government for improving the **general conditions** for innovation will be directed towards:

- improving the legal framework – especially the right of intellectual property, license procedures, legal environment of the HT enterprises;
- fiscal environment – taxes and charges, depreciation policy of the HT companies;
- foreign trade policy – customs duties on modern equipment and technologies, new conditions securing access to international markets;
- improving the system for elementary education of the entire population which determines the minimum educational standards of the work force and the attitude of the internal consumer market to HT products;
- developing the transport and telecommunication infrastructure;
- supporting the establishment of financial agencies that facilitate access to risk investment;
- improving industrial structure and competitive environment;
- developing corporate culture and management skills, as well as expert approach among the HT specialists.

Another major role of the Government in respect to innovation processes is the **renovation of the scientific and technological equipment of the country.** The scientific knowledge and engineering habits are of major importance for the business innovations. The elements of the national scientific and engineering equipment include:

- specialized system for technological education;
- university system;
- system for the support of fundamental research;
- publicly important scientific work and research and development – funding programs and institutions targeting sectors like health care, environmental protection, defense;
- strategically meaningful scientific work and research and development – funding programs and institutions targeting competitive scientific work and research and development or technologies from a particular class;
- support of enterprise innovations by funding programs and institutions in areas in which it is not profitable or it is very difficult for enterprises to make a profit if they invest in R&D within the enterprise.

The Government influence on the innovation processes will also focus on the **transfer factors.** In the broad sense they include:

- formal and non-formal links between the companies, including networks of small companies, relations between consumers and suppliers, relations between companies, regulatory agencies and research institutes, as well as incentives in the framework of cluster companies, that can generate information flows which promote the innovations or facilitate the companies' access to them;
- availability of leading experts (the so called guards of the gates to technological innovations), who hold the keys to technological development (including new technologies and encoded expertise in patents, specialized press and academic magazines) and develop personal networks of contacts that determine the information flows within the company and society;
- international contacts as a key component of the networks for information classification; the networks of international experts (the invisible colleagues) are of decisive importance for the transfer of modern knowledge and the promotion of technological development;
- the mobility level of the experts in the area of technologies has a direct impact on the speed of dissemination of new technologies;
- the possibility for an easy access to public scientific work and research and development;
- the establishment of spin-off company formations which usually includes transfer of individuals with experience and often leads to the commercialization of new technological solutions in the public sector;
- ethics – the system of public values, trust and openness are factors that influence the expansion of networks and the promotion of relations and other channels of communication; they can be effective when focused on the non-formal relations between the individuals; they can that have impact on the business agreements and establish the parameters and the accepted rules of behavior in the framework of communication and information sharing;
- codified expertise in patents, specialized press and academic magazines.

Particularly important in terms of the development of high technologies are **the dynamic factors determining companies' ability to accept innovations**. This includes a number of human, social and cultural factors, which are critical for the effectiveness of the innovation on the company level. These factors are primarily a function of the educational level. But they also concern easy communications within the organizations, informal interactions, cooperation, information channels and transfer of experience between and within the organizations as well as the cultural factors, which are particularly important for the effective operation of these channels. The Government can influence indirectly these factors by creation of a better general environment, improving the educational system etc.

HIGH TECHNOLOGY PARKS AS A TOOL FOR IMPLEMENTING GOVERNMENT HIGH TECHNOLOGIES DEVELOPMENT POLICY

High Technology Parks (HTP) and technological incubators as implementation tools of the Government policy have a leading position in the high technologies development Strategy of Bulgaria.

High Technology Parks will be based on the structures and resources already existing in the country. They will be institutionally formed premises securing favorable conditions for the development, implementation and marketing of modern technologies and research and development projects through the joint efforts of scientific, research and educational establishments, technology companies, private entrepreneurs and investors, National and Local Government.

HTP will be companies registered under the Commercial Act to manage and administer one or more separate territories including buildings and adjacent infrastructure as well as relevant tangible assets with the objective of pursuing HTA. HTP will support HTA by:

- research and development of high technologies in areas where individual enterprises could not or would have difficulties making a profit if they invest in R&D within the enterprise;
- acquisition of machines and equipment on an up-to-date technological level;
- acquisition of technologies (patented and non-patented inventions, licenses, know-how, trade marks);
- project and program logistic activities and services related to them;
- vocational training and retraining in the field of high technology; training of bachelor and master degree graduates by involving them in specific activities within the HTP;
- market implementation of HT with the help of design activities, technical consultations and analyses;
- consultations and services in the field of law, management, accounting, trade, market research and other business services directly concerned with the development and introduction of HT in the country.

Founders of a HTP can be:

- legal entities registered under the trade law;
- higher educational establishments and the Bulgarian Academy of Sciences, municipalities, NGOs, etc. which carry out or support the high tech activities ;
- legal physical persons having property rights on land, buildings or infrastructure within the limits of the High Tech Park or intellectual property rights.

Members and clients of the HTP are small and medium size enterprises in the stage of development and market entry as well as big enterprises that are after suitable infrastructure and intellectual environment. HTP should become the territory where private sector meets state and public sectors, the investor meets the potential recipient, academic research - applied research and the product - the market.

A management team appointed by its shareholders should manage the park. The management team should be responsible for the day-to-day operations of the park and should be empowered to dispose of its property. The representatives of the entities should also play an important role in the management of the HT Park involved in HTA.

HTP provide broad possibilities for direct transfer of new research products from universities and R&D units to the market on the one hand, and on the other, for attracting capital for the development of new promising areas with strong market orientation. HTP provide opportunities for developing and maintaining the high quality information and telecommunications services, shared usage of the available infrastructure, technological resources etc. The presence of a specific "concentrated" intellectual environment encouraging innovation and enterprising and providing greater possibilities for attraction of risk capital is extremely important.

The concept of HTP fully or partially co-insides with the idea of Scientific Centers, TechnoParks, TechnoCorridors, Technopolis, Science Cities depending on its organizational structure, manner of management, specialization, size of the park and the needs of the region or country concerned.

The Technological Incubator within the HTP is a means to stimulate the development of entrepreneurship and innovations in the field of technologically oriented industries. The incubators "raise" young high technology companies, helping them to survive and develop in the initial period when they are most vulnerable. They facilitate the technological and market evaluation of projects, the development of R&D plans and business plans and provide professional managerial assistance both directly in company management and indirectly through courses, workshops etc. The incubators help in finding investment capital and in the commercialization of products; they also facilitate contacts with different Government and International programs, participation in international exhibitions, fairs etc. The incubators offer companies joint usage of office services, access to equipment, flexible leasing schemes, work space with room for potential expansion, shared infrastructure - and all this under one roof. Quite often technological incubators are closely linked to a university or a research center.

The purpose of incubator programs is to "raise" successfully operating companies, financially vital and fully independent when they leave the incubator, usually after a period of two to three years. Incubators can develop various criteria for the selection of their potential clients, can work in a group of industry sectors or can concentrate in a certain product niche, such as software, microelectronics, bio-technologies, electric medical appliances, etc.

MEASURES FOR IMPROVING THE LEGAL FRAMEWORK IN THE FIELD OF HIGH TECHNOLOGIES

An important general prerequisite for the development of active sector policies in the field of HT is the improvement of regulatory framework.

Especially important in this aspect will be the drafting and the adoption of a special Law for HTA and HTP which to settle the public relations in the field of HTA in the Republic of

Bulgaria and to provide conditions for High Tech Activities by creating High Technology Parks as local, structural and purpose-oriented units.

The scope of HTA should be normatively structured, the management of HTA on a Governmental level and the role of the individual institutions - the Council of Ministers, the Ministry of Industry, the Ministry of Education and Science, the Bulgarian Academy of Sciences, etc. - should also be regulated. It is also necessary to provide adequate tax treatment, reflecting the issues specific to this sector.

The law for HTA and HTP should establish the main requirements for the creation of HTP in the country and the terms of their registration. Such registration of the parks and of the companies operating in the park is necessary in order to guarantee that the incentives are used in the proper way. The general requirements to join HTP and the main parameters of the contracts between the HTP and the legal entities involved in HTA, have to be established by the Law and the supportive legislation.

Along with drafting the legislation for HTA and HTP the whole legislation regulating research and development, education, copy- and patent- rights, foreign trade regulations, encouragement of small and medium enterprises, taxation regulations, the Accountancy Act, the acts regulating the process of standardization and certification of products, etc need to be considered, too. The goal is to remove the barriers to the development of the innovation process and HTA in this country and to identify different supplementary forms for encouraging these activities.

FINANCIAL CONDITIONS FOR IMPLEMENTING GOVERNMENT HIGH TECHNOLOGY DEVELOPMENT POLICIES

No sectoral industrial policies could be implemented in the field of HT without the financial resources necessary to ensure such policies. Unlike other sectors where Government efforts can be limited to liberalization, easier foreign trade conditions, de-monopolization, improvement of the legal system, measures for attracting foreign investments and such like, in the field of HT no serious effect could be achieved without a targeted allocation of Government funds.

The market mechanisms and the efforts of the private sector are not sufficient to stimulate HT even in the most technologically and economically advanced countries. In this situation, when we have to compensate for the 10 years we missed in this area, the active Government support has no alternative. Bulgaria cannot follow active sectoral policies in which the Government directs financial resources to too many areas. However for some sectors of strategic importance to the country we can and should set aside the required funds and guarantee their effective and reasonable usage.

It is not a question of direct subsidies to HT industries but of indirect incentives covering the cost for high risk R&D by providing access to laboratories and equipment which private companies cannot afford, by financing the exchange of information, international contacts, training and specialization of key experts in relevant areas of HT, certification in compliance with international standards, etc. It is a question of financial guarantees

for projects and activities in the sphere of Government influence outlined in the above Strategy.

Funding of the HT from the Budget will be secured by specialized funds for support of the high technologies within the Budget of the Ministry of Industry, in coordination with the policies of the Ministry of Education and Science in compliance with the principles of competition, transparency and equality of applicants etc. The resources will be directed towards creating conditions and mechanisms for a speedy transformation of the knowledge acquired in the country and abroad into end products competitive on the national and external markets.

The main part of the resources should go to the HTP to achieve a reasonable effect. This could be

- projects for developing the HTP infrastructure - buildings, communications etc.;
- information supply;
- support for organization of international meetings, seminars, conferences etc.;
- funding for establishment of incubators for high tech companies within the parks;
- support for creation of a basic laboratories and supply of equipment necessary for research projects with great potential for creation of market value;

The larger part of the funds should be directed to HTP operations in order to achieve a tangible effect.

ADEQUATE TAX TREATMENT

The Government support will be realized by adequate tax treatment of the registered HTP and the entities involved in HTA in HTP.

It is particularly important to introduce a corporate taxation as a fixed percentage of the revenues, instead of taxing the company profit. This is determined by the need to quickly renew the high tech companies' longterm assets and by the particular structure of the costs which are difficult to track and justify legally within the standard taxation framework.

Another form of indirect support will be the obligation of each park to establish special funds to support the high tech activities in their premises. It is reasonable to set up at least two such funds:

- A Risk Investment Fund, supporting business projects of HTP companies, mostly in the pre-market stage of the production cycle;
- An Investment Fund supporting the upgrade of the HTP infrastructure and the construction of new sites in the parks.

The resources in these funds will be gathered as contributions from the park's revenues, from the park members, grants etc.

It is also extremely important to recognize the export of high tech services done by the companies in the HTP as an VAT export or to recognize the right for a VAT tax credit when such services take place in accordance with the Directive 6 of the EC. Naturally,

this should be combined with relevant control measures from the side of the state tax administration.

The registered HTP will not distribute dividends among its shareholders and the profit will be allocated into the Park's funds.

ORGANIZATIONAL MEASURES FOR IMPLEMENTING AND DEVELOPING GOVERNMENT POLICIES IN THE FIELD OF HT

The success of this Strategy depends on organizational prerequisites and continuous management of this process.

As one of the major priorities of the Government policy, the development and the encouragement of high technologies and HTP activities is the responsibility of the Council of Ministers. Following the proposal of the Minister of Industry, the Government approves the HT Development Strategy and Annual Programs for the development and encouragement of HT. The annual programs should provide specific strategy implementation measures in the different areas of state influence, financial back up of these measures and some other political and international support in the year concerned. They should give specific objectives to the individual agencies involved in the development and implementation of the specified policies. Some of the strategic projects in the scientific, R&D and economic aspect of HT will be classified as high priority for the year.

It is necessary to set up an Expert Council to handle policies in the field of high technologies and the development of high technology activities under the guidance of the Minister of Industry. Its members should be experts from the other ministries, whose functions are directly related to HT development as well as experts from both profit and non-profit sectors, Bulgarian Academy of Science, Universities etc.

The Ministry of Industry should set up a special unit (office) for implementing the authorities of the Minister of Industry and pursuing the HT development policies on the basis of the planned HTA and HTP legislation. One of the functions of this unit will be to run the public register of the High Tech Parks and the companies operating in their territory.

An important condition for the implementation of the Government policy in the field of HTA should be to secure serious international support for Bulgaria’s efforts as follows:

- international programs, providing assistance to the country, especially those of the EU, programs of UNDP, OECD etc.;
- programs of the World Bank, the European Bank for Reconstruction and Development and other international financial institutions;
- long-term multilateral agreements (such as the Black Sea Economic Cooperation);
- bilateral technical assistance agreements with USA (Agency for International Development), Great Britain (Know How Fund), Japan, France, Holland and others;

- international programs of Bulgarian and foreign private and public foundations, trade and commerce chambers etc.;
- international HT development networks, technology transfer etc.

Particular attention should be paid to the country's full assossiation to the Fifth Framework Programme of the European Community for Research, Technology and Demonstration. This is important not only in the light of the possible funding of projects, training of specialists and transfer of know-how, but also for speeding up the integration of our country in the European structures for science and technology research and its preparation for full membership. For this purpose it is necessary to build a relevant system of national and institutional contact points and to provide information as well as technical and advisory assisstance to the potential participants.

One of the important tasks of our diplomatic and trade missions abroad and the international contacts of our government officials should be to attract interest, investments and markets for our HT products and services.

*** * ***

The implementation of the High Technologies Development Strategy is of great long-term importance for Bulgaria. It will determine the industrial model of the country and its capacity to achieve high economic growth and living standards in the long-term perspective. Furthermore, the success of our efforts in this area will be an evidence of the ability of our society to set and solve complex tasks and will prove our potential to be part of the advanced modern world.